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ALLIANCE ADVANTAGE

The Art of
Creating Value
through
Partnering

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THE NEW ALLIANCE GAME

POWERFUL FORCES are driving the formation of strategic alliances between firms in the world economy. The movement toward globalization has opened many new opportunities to companies, triggering a desperate race for the world by major global suppliers of everything from credit cards to telecommunications. Once they are in the game, many find themselves eyeball-to-eyeball with ambitious global players as well as local competitors whose friendly home governments restrict market access to a chosen few. Countries like China, for example, select key investors and partners and give them privileged market access while excluding others. In this game, companies cannot play without partners both local and global.

As we saw in the 1970s, when Western car makers struggled to close the quality gap with their Japanese competitors, in global competition, gaps in skills between competitors have become both more painfully apparent and very much less tolerated. Who develops the best products fastest? Who achieves the highest quality at the lowest cost? Which company has the resources and know-how to install a world-class phone or cable system in a short time? In the intensely competitive global arena, companies must identify their skill and

competency gaps and fill them rapidly. Very often they find that the fastest way to fill them is with the capabilities of strategic allies.

The globalization movement is paralleled by a new industrial revolution: an information and communication age driven by technological breakthroughs that have spawned entirely new industries, such as mobile communications and interactive multimedia. As this new age takes form, it is dramatically altering existing markets and reconfiguring established industries, triggering a race for the future among the world's fleetest competitors.

Three features of the race for the future make alliances essential. First, many of the great opportunities of the information age call for the melding of skills and resources that few individual companies now possess entirely. Second, this revolution isn't being built on vertically integrated structures of single corporations, as was the industrial revolution that preceded it. More and more, it is being built on "seamless" networks that must be standardized across vast expanses and complementary applications. Digital cash and global payment systems are the archetypes of these new service networks. The value of a good or service to each customer depends on how many others use the same good or service. Whoever is first with a strong network solution enjoys lasting first-mover advantages, as there is room only for a very few successful competitors. Third, the uncertainty inherent to the information economy, with its myriad of new markets to create and emerging technologies to define, calls for alliances not only to serve the usual purpose of bringing together complementary strengths but also that of combining insight and understanding to reduce uncertainties and accelerate learning.

The races for the world and the future require the development of insight, capabilities, and infrastructure at an ever faster pace that few companies can master, and yet they must be swifter and swifter if strategic advantage is to be gained. If a company cannot position itself quickly, it misses important opportunities, whether they are in China or cyberspace. It may also find itself in a precarious competitive position. In most cases, in-house developments and new "green field" investments are simply too slow and problematic for rapid positioning. By contrast, well-chosen alliances make it possible to bypass slow and costly efforts to build one's capabilities and to access new opportunities.

In principle, acquisitions are an alternative to strategic alliances. But an acquisition is a blunt tool, often leading one to acquire more, for a higher price, than one needs. And some of the very resources one hopes to gain through acquisition—such as the close government relationship that in many countries confers insider status or the commitment of key scientists to do their best—may not survive the transaction. Further, as companies refocus around core competencies, it makes less and less sense to acquire only part of a business; disconnected from its supporting competencies, the part loses some of its value; yet acquiring the whole company might not be feasible nor desirable. The value of an acquisition, in any case, is often difficult to establish in advance, particularly in the context of underdeveloped markets and uncertain technologies. Alliances have therefore emerged as the vehicle of choice for many companies in both the race for the world and the race for the future.

Iridium

Consider the case of Iridium, a broad alliance initiated by Motorola in the early 1990s to develop and build a global satellite-based mobile communications network.² By ringing the earth with sixty-six low-orbit satellites, Motorola planned to overcome the limitations of ground-based cellular phone networks and leapfrog its competitors. Unlike current cellular systems, Iridium's would use its satellites to beam signals directly to and from small phone handsets. Iridium was Motorola's bet both on the complete globalization of wireless telecommunications and on its concentration in a few global networks.

To implement its ambitious project, Motorola needed funds, traffic rights, and complementary capabilities (particularly for space technologies). To secure these, it brought together an exceptional coalition of seventeen equity-holding partners, including local national telecommunications companies, whose concerns over the bypassing of their infrastructures (and their traffic fee collection process) had to be placated, and an array of industrial partners, including Raytheon, Lockheed Martin, Khrunichev Enterprise (the Russian launch rocket supplier), China Great Wall, and Nippon Irid-

ium (itself an alliance of eighteen Japanese partners). The inclusion of these industrial partners had a clear purpose: to provide the technologies that Motorola needed but could not (or did not wish to) master, from ground communication to the whole range of very demanding technologies inherent to space-based communications. And it needed them fast. Other consortia, notably Globalstar, led by Loral, a specialist in space communications and defense technologies, were racing for the same opportunity.

The first Iridium satellite launches took place in 1997, with wireless global telecommunication services slated to begin in late 1998. The \$3.4 billion investment is intended to capture most of the demand from "high-end" travelers around the world and to bolster Motorola's leadership in cellular communications. For Motorola and its partners, Iridium was (and remains) a formidable bet.

Primary Purposes of an Alliance

Like Motorola, many leading companies find themselves racing for both the world and the future. And since few have everything they need to succeed on their own, alliances play a key role. In this, alliances have at least three distinct purposes:

1. *Co-option.* Co-option turns potential competitors into allies and providers of the complementary goods and services that allow new businesses to develop. Here we use the term *co-option* in the sense that (a) potential rivals are effectively neutralized as threats by bringing them into the alliance and (b) firms with complementary goods to contribute are wooed, creating network

economies in favor of the coalition.³ As princes and warriors have observed through the centuries, often the most painless way to neutralize potential foes is to bring them into one's own camp. Both competitors and "complementers" need to be co-opted into coalitions.

Motorola, for instance, needed the national telecommunication service operators in its coalition on both counts: to provide Iridium with traffic rights (complementer co-option) and to make them supportive of Iridium's deployment and also unavailable to rival coalitions (competitor co-option).

2. *Cospecialization.* Cospecialization is the synergistic value creation that results from the combining of previously separate resources, positions, skills, and knowledge sources. Partners contribute unique and differentiated resources—skills, brands, relationships, positions, and tangible assets—to the success of their alliances, and alliances create value when those resources are cospecialized, that is, they become substantially more valuable when bundled together in a joint effort than when kept separate. For example, Motorola needed the cospecialized resources of its aerospace industry partners to develop and build a complete space-based communications network.

Cospecialization becomes increasingly important, and more likely to be at the heart of an alliance, as companies refocus on a narrower range of core skills and activities and as opportunities become systems and solutions rather than discrete products (Iridium, for instance, is a complex, tightly integrated system). This makes the individual company less likely to be the sole source of the skills and capabilities needed for exploiting new opportunities.

3. *Learning and internalization.* Alliances may also be an avenue for learning and internalizing new skills, in particular those which are tacit, collective, and embedded (and thus hard to obtain and internalize by other means). Core competencies are not for sale on an open market. When these skills can be learned from a partner, internalized, and exploited beyond the boundaries of the alliance itself, they become all the more valuable. Thus, the learning one gains from an alliance partner can often be leveraged broadly into other activities and businesses beyond those covered by the alliance.

These three purposes of an alliance are discussed in detail in Chapter 2. In combination with the fluidity and uncertainty of competition, they create fundamental challenges for many firms. The strategic significance of these purposes makes alliances much more central to corporate strategy. Alliances are becoming unavoidable. They are taking firms into new and uncertain territory, at the edge of their current domains and skill sets, and they are testing the ability of these firms to manage complex relationships. Much of the critical resource base that will determine the success of a company now lies outside

its boundaries and escapes its direct control. In a word, alliances are becoming both strategically critical and harder to manage.

New Alliances versus Old Joint Ventures

On the surface, one might not see a great deal of difference between an alliance and the more familiar joint venture. Both, after all, seek to accomplish what the individual firm cannot, or chooses not, to attempt on its own. Nevertheless, the two differ in at least five ways.

First, strategic alliances are often more central to firm strategy than traditional joint ventures. In the past, very few companies created joint ventures close to the core of their businesses; fewer still made them a cornerstone of corporate strategy. Those which did were clear exceptions. Typically, joint ventures were formed to exploit specific opportunities that were somewhat peripheral to the strategic priorities of the firm. In the 1970s, for example, Peugeot, Renault, and Volvo, three midsize European car makers, created a joint venture to make six-cylinder engines for the top of their product range, but all three were more focused on mass markets and midsize cars, for which four-cylinder engines were quite sufficient. Also, joint ventures were rarely used by leading companies in the pursuit of fundamentally new markets and technologies. Their main purpose was most often to obtain economies of scale and scope in marginal but well-known market segments that were too small for each firm to serve separately, such as that for large powerful cars in Europe.⁴

Second, traditional joint ventures combined known resources and most often shared known risks, such as in the oil industry. What each partner brought and what it gained was clear. New alliances, in contrast, face much greater uncertainty, both in the resources they bring together and in the external turbulence they confront. They push the leading edge of technologies and bring together emerging and rapidly evolving skills, often for the first time. The ultimate value of each partner's contributions as well as the value of the benefits each will draw from the alliance are unclear at the outset. New alliances are used to reduce uncertainty rather than simply combine known resources.⁵

Third, new alliances increasingly involve multiple partners, whereas old joint ventures were often bilateral. Iridium encompasses no fewer than seventeen main partners, and this is not that unusual. Fewer and fewer of the alliances intended to exploit new opportunities comprise only two partners. The more partners, the greater the risk of divergence and the development of subcoalitions between them.

Fourth, alliances are now forged seldom to coproduce single products but increasingly to develop complex systems and solutions that call for the resources of many partners.

Fifth, being less certain, less stable, and at the competitive edge, alliances are inherently more difficult to manage. What resources are going to be needed and how best to combine them are not known for sure at the outset. How best to manage the interface between partners and to govern their relationship is something to be discovered rather than determined at inception. Partner relationships are highly ambiguous, and today's partner may be tomorrow's competitor. So where should the boundaries between areas of competition and collaboration be fixed? And as alliances proliferate, it becomes impossible to manage even simple bilateral alliances without taking into account the web of other relationships in which the partners engage. Any alliance may trigger unforeseen operational or strategic interdependencies with any other alliance in which one or both partners are engaged.

Given the strategic role that alliances now play in business competition, it is disappointing to find how few managers pay attention to their fluidity and evolution and how many academics and consultants offer simplistic analyses and prescriptions for their management. To a great extent, both management literature and practice are influenced more by the experience of traditional joint ventures than by the less certain, more fluid, and more ambiguous environments of alliances.

To see the challenges facing alliance managers more clearly, let's revisit the Iridium example.

As of this writing, Iridium was at the leading edge of new technologies. Its sixty-six Lockheed-developed satellites were designed to be affordable, each costing about one-tenth the price of current satellites. The low unit cost of these satellites would not be simply a function of production scale; cost-saving technologies and innovations

would be needed. But their development would require careful integration with the work of allies who would be responsible for developing the ground-based stations, system software, and the like that would make the entire system work. Getting all of the parts to fit together seamlessly would be a complex exercise in technology integration.

Iridium faced several further challenges. First, how would it compete against rivals such as Globalstar? The answer was not clear. Globalstar's reliance on the ground infrastructures of conventional telecommunications networks would give it an obvious advantage over Iridium: traditional service providers would more naturally ally themselves with Globalstar. Second, the future shape of worldwide long distance mobile communications was unclear; as a result, Iridium's place in that future industry was equally unclear. Pricing, too, was problematic. Third, the relationships between Iridium partners could potentially unravel. Some partners already found themselves in conflicted situations. Lockheed, for instance, after its acquisition of a 20 percent equity position in Loral Space & Communication, found itself with a significant stake in both Iridium and Globalstar. Would it be able to maintain a "Chinese wall" between the two projects and not let its interests and activities in one influence its behavior in the other? Finally, the many alliances in which Iridium aerospace partners took part on their own accounts had created a tangled web of relationships that Motorola executives had to understand and deal with intelligently. A change anywhere in the web of alliances would have repercussions for either good or ill within Iridium.

The challenges just described are not uncommon in other alliances, and they raise four fundamental questions for partners:

1. *Will the alliance create value, and for whom?* Put differently, what can the partners realistically expect from the alliance? How will it create value, and where? Will the benefits be commensurate with the efforts of partners? How should the alliance be structured and managed to maximize the odds of creating value?
2. *Will the alliance stand the test of time?* Although longevity per se should not be a goal, the fact remains that most alliances only create value over time. Hence, the ability of the alliance to survive external turbulence and internal dissension is an important concern. Will the alliance last long enough to create value? What elements of design and management will increase the odds for survival?

3. *Will the partners reconcile conflicting priorities and concerns?* Conflicts between partners are common and usually unavoidable. These can undermine the commitment of individual partners; in the worst cases, they can torpedo the entire alliance. The question is, how can conflicts be contained or resolved? How can the commitment of the alliance partners be maintained or strengthened?

4. *How will each partner manage its growing web of alliances?* During the Cold War period, the United States was a member of many mutual defense alliances in North America, Europe, and Asia. Whatever happened in one part of the world inevitably affected its relationship and credibility with allies elsewhere. Large global corporations are little different; they are parties to several alliances, and what occurs in one has implications for the others. How should a company respond in one alliance to developments in another?

These are the key questions we will address in this book. In doing so, we will first explore each question in greater depth, identifying the managerial challenge involved in each and indicating how each defies the conventional wisdom and usual assumptions about joint ventures and alliances.

Table 1-1 presents the perspective we will take. The left-hand column highlights what we have observed conventional wisdom to be, and the right-hand column outlines a new perspective, one that is more useful in managing today's alliances. The table suggests the deep differences between the conventional wisdom we inherit from our experience with joint ventures and the new perspective that successful strategic alliances require.

Before we embark on the analysis of how to design and manage alliances to beat the odds, we need to explore these changes in perspective and mindset that firms and their executives must make as a precondition to successful alliance management.

Value Creation

In new strategic alliances, managers need to take a broader view of performance than they did in traditional partnerships, focusing on a wide range of economic and strategic outcomes. Some of these outcomes are the options that accrue to partners; their values cannot be

TABLE 1-1 *Conventional versus Current Thinking on Alliances*
CONVENTIONAL WISDOM A NEW PERSPECTIVE

WILL THE ALLIANCE CREATE VALUE? AND FOR WHOM?			
• Cost-benefit analysis	→	• Complex strategic assessment	
• Value-creation priority	→	• Value-capture emphasis	
• Simple complementation	→	• Complex cospecialization	
• Initial structure	→	• Evolving process	
WILL VALUE CREATION STAND THE TEST OF TIME?			
• Managing a set of objectives	→	• Tracking moving targets	
• Implementing a single bargain	→	• Striking multiple bargains	
• Making a commitment	→	• Creating and maintaining options	
• Achieving longevity	→	• Contributing to competitiveness	
WILL THE PARTNERS RECONCILE CONFLICTING PRIORITIES AND CONCERNS?			
• Collaboration	→	• Collaboration and competition	
• Interdependence	→	• Risk of unbalanced dependence	
• Trust	→	• Enlightened mutual interest	
HOW WILL EACH PARTNER FIRM MANAGE ITS GROWING WEB OF ALLIANCES?			
• Marriage	→	• Realpolitik, diplomacy	
• Single relationship	→	• Alliance networks	

measured easily. If more strategic choices become available or, on the contrary, if strategic opportunities are foreclosed, it is difficult to place a value on the alliances that produced these outcomes. Here a shift from simple cost-benefit analysis—of inputs versus outputs—to a probabilistic assessment of strategic value is required.

Traditional partnerships are not the best training ground for managers who must make strategic alliances create value. This is particularly true in new environments where the melding of complex and heterogeneous skills and the interaction between dissimilar organizations are the bases for value creation. Value creation is heavily dependent on successful cospecialization between the skills of different partner organizations, and the payoff of this cospecialization is hard to predict. So, too, are opportunity costs, which are much harder to assess than are the costs and benefits of highly circumscribed joint

ventures operating in known markets with proven technologies. Assessing value creation is much easier in traditional joint ventures, where the economics are simpler and better understood.

Conventional wisdom encourages managers to look for value creation potential in the initial design of the alliance and in terms of governance. It supports a natural tendency to focus on contractual terms. In answering the question "What's in it for us?" traditional joint ventures rely heavily on initial structure and governance. In a strategic alliance, however, initial structure and governance need to be complemented with attention to management process over time.

COST-BENEFIT ANALYSIS VERSUS STRATEGIC ASSESSMENT

Value creation in traditional joint ventures, and in customer-supplier partnerships, is usually easy to measure. In mature, well-established industries with known markets, known technologies, well-identified skills, and reference prices, measures of both inputs and outputs are generally workable. In upstream collaborations, such as joint R&D projects, it is easier to assess the respective contributions (inputs) of the partners than the relative benefits (outputs). In downstream ventures, such as joint distribution, the opposite is often the case: market results (outputs) may be easier to measure than relative efforts (inputs).

The new alliances we have observed pose tough valuation challenges, and they do so for the following reasons:

- They are more strategic than traditional joint ventures.
- They create value in many different ways.
- Their ultimate consequences cannot be anticipated with precision.

As a result, simple attempts at economic valuation break down.

The measurement of costs and benefits—in particular value capture benefits that accrue outside the alliance and that are strategic rather than financial—calls for a broad understanding of value creation and a keen sense for value capture. This is especially true when the alliance is used to learn about a new environment and thereby reduce the uncertainties present in a new territory. The strategic benefits of this activity are difficult to quantify. Here, allied firms that have long experience with traditional joint ventures must be cautious. Applying measurement methods used successfully with

simple or strategically peripheral joint ventures to strategic alliances with greater ambiguity and strategic importance is inappropriate and will likely produce a misleading assessment.

Costs and benefits are also unclear because they accrue both in what the partners do *jointly* and in what they do *separately*. For example, when JVC, the Japanese consumer electronics firm associated with Matsushita, supplies components to a joint venture it runs in Europe with Thomson, also a consumer electronics firm, it creates and draws value both from the joint venture's own activities in Europe (visible to Thomson) and from incremental economies of scale derived from making components in Japan for the joint venture (at a cost not known by Thomson).

If value creation is difficult to measure, value capture is even harder to calculate. This is because so many alliance benefits are indirect. What matters most may not be the balance of direct alliance inputs and outputs but the impact of the alliance on the competitive standing of each partner and the strategic options made available or foreclosed. Thus, some alliance value can be measured directly, but other benefits enter the ledgers of partner companies "surreptitiously." These may be intangible and difficult to link with the activities of the alliance, but they are real nevertheless.

Consider the General Motors-Toyota NUMMI joint venture to produce automobiles in California. In learning how to apply "lean" manufacturing to a restive unionized work force in North America, the two firms created value together. That value manifested itself in at least two ways: high-quality, efficiently produced cars, and the learning that accrued to the partners. The efficiency with which the cars were jointly produced was a tangible measure of value creation, but what about the learning? Did it have value to GM? Did it do anything to enhance GM's competitiveness? We would argue that the learning had value only to the extent that it was *captured* by GM—that is, to the extent that GM succeeded in applying what it learned to GM-owned plants in North America and elsewhere. This is a measure of value capture from GM's point of view, not of overall value creation in the alliance.⁶

While simple in principle, differentiating value capture from value creation is difficult in practice. For example, GM's yardsticks for measuring value creation and value capture, respectively, might have entailed measurements of manufacturing productivity on the

one hand, and, on the other, the number of managers it rotated through the joint venture. Yet unless the costs of producers (the minimum staff needed to operate the plant) and learners (those managers and specialists there to learn but not essential to lean plant operations) among the GM staff sent to the joint venture were clearly differentiated, measures of value creation and value capture would quickly become blurred, leading to conflicting imperatives. Value creation, after all, would lead GM to understaff managerial ranks by design in order to stretch productivity, while value capture would lead the auto maker to overstaff the venture's management team and thus provide more of its managers and staff with the opportunity to maximize learning.

Unless value capture opportunities are explicitly identified and attended to, value capture is unlikely to take place. In other words, what should really matter to GM is not the financial performance of the NUMMI joint venture or even what it learned in working with Toyota. What is important is how effectively GM appropriated and transferred the lessons from that learning throughout its manufacturing network and the degree to which those lessons produced productivity gains and quality improvement throughout GM.

In sum, the key is to keep an eye on both value creation and value capture, to separate the two clearly in developing yardsticks for measuring alliance performance, and to manage both.

THE CHALLENGE OF EFFECTIVE COSPECIALIZATION

Value creation for many alliances is a function of cospecialization between partner contributions; in other words, the value of each partner's contributions is enhanced when combined with the contributions of other partners. We are not referring here to the sharing of capacity by two chemical companies or to the agreement through which Peugeot, Renault, and Volvo jointly make engines but to arrangements that bring together very different kinds of partners, with strongly differentiated but highly cospecialized contributions.

Today's alliances often involve melding differentiated skill sets from vastly different and often very distant partners. In many instances, each partner's skill set is not only foreign to the other partners but may also be relatively new. The success of this skill melding determines the value partners can realistically expect from the alliance.

Skill melding cannot be taken for granted. For instance, when Alza and Ciba-Geigy began development of advanced drug delivery systems (ADDs), which regulate the slow release of a treatment substance into the patient's bloodstream through the skin or the intestinal tract, the partners had to meld very different capabilities and skills.⁷ Alza operated with multidisciplinary teams that responded in unplanned and creative ways to technical difficulties as they arose. Ciba-Geigy, in contrast, had a highly disciplined and structured process for drug development in which specialists intervened sequentially, one after the other. Both skill sets were needed, but bringing them together proved to be a marriage of oil and water.

The challenge of skill cospecialization is not simply one of geographic distance but is bound up with strategic, organizational, and cultural differences between partners. The Alza-Ciba-Geigy alliance, for example, reflected differences in company origins, histories, and core skills. Alza was a small, entrepreneurial new venture launched in Palo Alto, California, by a visionary physician, Alex Zaffaroni. Zaffaroni believed deeply in the value of an informal, egalitarian environment in which unique talents could bloom through self-structuring teams. Alza's teams worked quickly and informally to integrate the many technologies needed to develop advanced drug delivery systems. Ciba-Geigy, on the other hand, was a two-hundred-year-old company and one of the major Swiss pharmaceutical groups. It was the epitome of a traditional, disciplined, dedicated European company. And as a large multinational company, Ciba-Geigy was formally structured and bureaucratic.

Deep historical, cultural, and organizational differences between the two companies made the melding of their cospecialized skills and resources particularly difficult. This difficulty was compounded by the genuine challenge of the task they faced together. Market, technology, and competitive instability added to the burden. Nevertheless, each of the allies saw the benefits of working together as greater than the accompanying difficulties. One of the very reasons for entering an alliance, as opposed to obtaining technology licensing deals or product supply agreements, concerns the need to adapt and commingle tacit skills to achieve an objective.

New alliances increasingly seek to meld together cospecialized but widely different skills, contributed by deeply dissimilar partner

organizations of different sizes, histories, and management styles. If cooperation is difficult between *Aérospatiale*, British Aerospace, and Daimler-Benz Aerospace, all three large European companies in the same industry, consider Hewlett-Packard and Microsoft, or Toshiba, IBM, and Motorola.

INITIAL STRUCTURE AND EVOLVING PROCESS

As described earlier, the static view of alliances inherited from traditional joint ventures encourages managers to pay too much attention to the initial crafting of alliance design and too little attention to the likely impact of that design on the subsequent process of collaboration between partners. The initial architecture of the alliance (contracts and/or legal and organizational entities, governance mechanisms, interface formats, etc.) can become a straitjacket as the alliance evolves. It should be reassessed and even revised as the partners learn more about the structures and relationships needed for value creation and capture.

For example, the alliance between AT&T and Olivetti in the mid-1980s was initially designed as a series of arms-length cross-supply contracts inspired by traditional original equipment manufacturer (OEM) relationships. The two companies merely exchanged existing products. While this design got the alliance off to a quick start, it locked the partners into a series of periodic price and supply negotiations that infected the relationship with adversarial spirit. This made it extremely difficult for the two companies to move toward the level of cooperation and mutual trust required by the next step in their strategic alliance: the joint development of completely new products.

The AT&T-Olivetti alliance began to stall, particularly as the dollar fell against the lira in the late 1980s, making Olivetti products less attractive to AT&T. Although other problems plagued the alliance, the initial design was a major contributor to its eventual failure. The initial design not only bred conflicts, it also short-circuited learning between the partners. Restricting the partner interface to product trading failed to provide a broad enough "window" through which the partners could interact, share expertise, and learn to work together.

We have observed many other cases in which alliance designs adopted for the sake of efficiency and a "quick win" hampered subse-

quent evolution. Unfortunately, the most efficient early forms of complementation, such as the mere arm's length exchange of products, are seldom conducive to the depth of collaboration required when complex, intangible assets must be brought to bear on difficult tasks in the face of high uncertainty. This dilemma is seldom an issue in traditional joint ventures, but it is a major stumbling block for many strategic alliances as they move from simple "quick wins" to more ambitious and complex tasks. In these alliances, the initial design of the relationship needs to encompass both the achievement of "quick wins" and the beginning of a joint learning process that will foster further collaboration over time.

The Test of Time

Instability is endemic to alliances that aim to create the future. It is more natural for them to come apart than to stay together. Whether an alliance will stand the test of time hinges on its ability to learn and be flexible in the face of change. Perhaps more than any other organizational form, the alliance faces a trade-off between too much rigidity—where design becomes a straitjacket—and too much flexibility—which may cause loss of direction or balance. Managers of enduring alliances master this difficult trade-off by doing the following:

- developing a process for tracking moving targets
- periodically renegotiating the "bargain" between partners
- reassessing the value of the options created by the alliance

Alliance managers cannot simply "set it and forget it." They must continually sense and respond to what is happening within the alliance and within its larger environment. This requires a managerial mindset very different from the one that negotiates and implements one-time contracts with fixed objectives. Alliance managers must understand the sources of instability and anticipate and react to the events and forces that undermine cohesion and purpose.

Let's review briefly the main sources of instability and see how they affect alliances.

1. *Emerging markets.* Instability is intrinsic to emerging markets. The cast of customers and competitors is constantly churning, and

market size and evolution are often unpredictable. In the 1980s, for example, all the companies involved in the cellular phone industry underestimated the pace of growth of that market—and by a wide margin. Conversely, it is now clear that Apple and other companies considerably overestimated the market for personal "pocketbook" computers and communicators (also called personal digital assistants), at least given what the available technologies could deliver.

History indicates that even the innovators who launch new industries are usually wide of the mark in foreseeing how their inventions will be used, altered, and adapted. Engineer Guglielmo Marconi, inventor of the wireless telegraph, imagined the only application of his device to be ship-to-shore communications; he had no idea that it would prove to be the basis of radio broadcasting. Nor did the early titans of the digital age—IBM, Digital Equipment, NCR, and the like—foresee how the development of micro- and workstation computers would shake the foundations of their industry.

2. *Emerging technologies.* Even when customer needs are clearly understood, the technologies and applications that emerge to meet them may not be. The search for a vaccine and cure for AIDS—an obvious need—provides a useful example. Beginning in the early 1980s, pharmaceutical giant Merck assembled a complex network of research institutes, universities, biotech entrepreneurial companies, and other organizations to develop AIDS vaccines and cures. Given the still serendipitous nature of pharmaceutical innovations, and the nature of AIDS and its evolving virus, there was no way of knowing which—if any—part of this web of R&D alliances would be productive and which would not.

3. *Competitors.* The actions of competitors are another source of alliance instability. Intel's actions, for example, created instability in the PowerPC alliance of Apple, Motorola, and IBM. Each of these firms had been a loser in the battle of personal computer standards—a battle won decisively by Intel, which captured 90 percent of the market. The PowerPC alliance was formed to develop a new microprocessor and computer architecture capable of challenging Intel's dominance, which had left Apple as the only significant user of Motorola's microprocessor products.

Paradoxically, the threat of the PowerPC alliance spurred Intel to accelerate its own program of innovation and product development, which in turn undermined the assumptions on which the PowerPC alliance was built. The appearance of more advanced Intel processors made aggressive pursuit of the PowerPC product less attractive for IBM, one of the key alliance partners. What for Apple was a "do or die" project was simply an option for IBM. IBM was a partner and a competitor of Intel, a fact that may have further dampened IBM's commitment to the PowerPC, whereas Apple and Motorola had only to gain with its success.

4. *Partners* In some cases, alliance partners are themselves a source of instability. Each partner may want to keep its options open, so that any given partner's commitment is never quite secure. Better options may develop, or strategic constraints may be imposed by shifting corporate priorities and decisions in other businesses. This is particularly true in the case of specific product lines or geographic alliances; although these alliances may be important for the subunits involved, they may become victims of changing corporate strategies or resource constraints.

5. *Regulatory changes* Some alliances are predicated on the expectation that the partners can obtain a favorable change in the regulatory environment. These alliances may, however, trigger an unexpected regulatory response. Perhaps the most striking example of this kind of instability is provided by the Bell Atlantic-TCI non-alliance of 1994. After announcing their plan to provide interactive home video services, the two firms received regulatory approval only on terms that made the venture less financially attractive than they had anticipated. As a result, Bell Atlantic and TCI scrapped their collaboration before it had even begun. Meanwhile, their initial announcement had triggered a wave of investments by competitors in a "digital superhighway" to serve the home video market, making the potential Bell Atlantic-TCI alliance even less attractive.

Given the sources of instability just described, the management of strategic alliances must be seen over the longer term. An alliance must be an evolving relationship capable of tracking and hitting a moving target—even as its own foundations are shifting beneath it. This need for self-correction stands in stark contrast to the tradi-

tional joint venture's contractual partnership arrangements aimed at static objectives. Instability demands that partnerships evolve from a single initial "bargain" to a series of bargains struck over time as conditions change. They must follow the commonsense approach of John Maynard Keynes: "When the facts change, I change." Partners must be prepared to reassess their relationships, adjust, and even renegotiate as the facts change, as intended objectives shift or disappear altogether, as partners lose interest or find better options. And partners should be prepared to disband alliances altogether. Uncertainty almost unavoidably makes some alliances short-lived.

SET OBJECTIVES VERSUS MOVING TARGETS

Conventional partnerships serve set objectives and face well-circumscribed risks; their economics are usually clearly understood from the start, and their strategic scope is usually limited and clearly bounded. Thus, a relatively static perspective on their implementation may be sufficient to ensure success. Not so in the strategic alliance, in which the partners must be flexible and must see theirs as a relationship whose objectives are bound to evolve in ways that cannot be fully planned at inception. Doing otherwise would be highly dysfunctional.

The process of partner collaboration may itself lead to the discovery of unforeseen value creation opportunities and to windfall benefits. For example, while ICI and Enichem, two large European chemical firms, entered their joint venture in the plastics business (Eurovynil Corporation) largely to rationalize manufacturing, they quickly discovered they had much to learn from each other—Enichem bringing technical expertise and ICI marketing know-how. Myopic attention to fixed objectives would likely get in the way of such discovery. Partners must keep a sharp eye on their own interests and have a sound yardstick for measuring value, but they must not establish objectives once and for all. As of this writing, Iridium, for instance, has already gone through at least one major redefinition of its market objectives—to give priority to business executives as customers—and of its technology base—to connect to and use existing telecommunications networks. Changes in the market and technology mean that the stated objectives of many new alliances must accommodate revisions.

The concept of alliance objectives as moving targets is easy to accept intellectually, but it is difficult to reflect organizationally, where plans, budgets, and resource allocations are often rigid. Managers closest to the alliance may see the need to change objectives, but they may be reluctant to depart from the basis on which they initially "sold" the alliance to their own management. Shifting the goalpost is also difficult for senior executives. This rigidity may impose a deterministic approach on partnerships.

SINGLE VERSUS MULTIPLE BARGAINS

The evolutionary nature of alliances calls for an iterative approach to deal making. In this, orthodox thinking may be counterproductive. The strategy literature, for example, advises managers to "formulate, then select, then implement." The traditional prescription for mergers and acquisitions—to "search, negotiate, acquire, and integrate"—may also be misleading.⁸ In partnerships, all processes are ongoing. The search for partners does not stop when the alliance agreement is signed: other options will continue to exist, and existing partners might not deliver. Nor should negotiation stop when the deal is signed; external conditions keep shifting, and the contributions and benefits of the various partners change.

Integration of activities between partners is rarely effected in a single stroke, as the level of trust shared and each partner's understanding of the joint task may be too low to permit it at the outset. On the contrary, integration must take place over time. Cospecialization, too, is often built over time as a function of perceived benefits and as trust and commitment develop. Partners in successful alliances increase their commitments in a series of steps over time, as they perceive a balance between their commitments and the related benefits.

Therefore, an alliance is perhaps best conceived as an evolving relationship punctuated by a series of commitments, steps, and "bargains" explicitly negotiated or implicitly accepted over time. In the course of that step-by-step evolution, many possible changes in the relationship are reviewed and considered by the partners, who reinforce or limit their commitments accordingly. This evolutionary approach is different from that observed in the traditional partnership, where partners usually merely implement the initial agreement. This does not mean that joint venture relationships do not evolve;

likely shifts in the economics of the relationship are usually understood well enough at the outset and are often incorporated into contingent contracts.

Evolution in the newer alliances, however, is less predictable. Rivalry between partners makes multiple bargains over time almost unavoidable, particularly when one partner begins in a weak position but gains strength, as did DASA, the aerospace arm of Daimler-Benz, in the Airbus alliance. Shifting relative strength between partners must be recognized in the structure of the alliance. The relationship between Fuji-Xerox and Xerox Corporation, for instance, went through a series of periodic adjustments to reflect the unanticipated but growing role of Fuji-Xerox in restoring the competitiveness of the Xerox group against Japanese competitors.

COMMITMENTS VERSUS OPTIONS

Alliances must balance the need for commitment with the desire of partners to keep their options open. Obviously, commitment facilitates cooperation. But in a fast-changing world, companies must be free to pursue better opportunities when they appear.

In traditional joint ventures, commitment often stems from an absence of compelling alternatives. ICI and Enichem did not have obvious alternatives. When market access is the goal, for example, the partners may not be uniquely good choices for each other, but they may have no choice but to work together. When the German air force needs some new weapon systems, DASA, as Germany's leading aerospace system integrator, is almost necessarily involved. There simply is no credible local alternative as a partner.

The cost of abandoning the alliance or of switching from one partner to another may be a further source of commitment. Alliances seeking economies of scale have very high exit costs. Once Peugeot, Renault, and Volvo started making engines together, it became absurd for any one of the three to exit the venture. The same is generally true of upstream material and component supply and capacity optimization ventures. In many contemporary alliances, on the other hand, the volatility of technologies and markets, the complex nature of the tasks undertaken, and the shifts in rivalry and competitive position among the partners all contribute to making commitments more tentative. Indeed, many alliances are simply options, not strong commitments.

For Merck to pretend to be fully committed to its AIDS network partners would be useless; everyone involved recognizes the technological and market uncertainties faced by Merck's alliances. Commitment may grow as these uncertainties are resolved, or it may dissolve if new developments reduce their potential for value creation.

Just as all of life's options are never exercised, some planned alliances are never activated. Some may not even be meant to succeed. Their purpose is simply to forestall rival alliance negotiations or, in some cases, to catalyze the formation of other alliances or competitive developments. We have seen a number of these short-lived "virtual alliances" in multimedia information technology, for instance, between Canal Plus (the French television broadcaster) and various companies in Germany. Their value lies more in what their announcement prevents or triggers—in a complex, multistage coalition-building game—than in what they might actually accomplish.

Despite the lack of fixed objectives in the newer alliances, and the wish to keep some of their options open, we have observed partners in successful alliances make increasingly significant and irreversible commitments, building value-creating cospecialization into their alliance over time as their level of mutual understanding and trust increases and as they become more comfortable with the uncertainties confronting their alliance. Expecting such cospecialization commitments up front would, in many cases, prevent an alliance from getting started. Partners balk at binding commitments when uncertainty is high and trust and mutual understanding have not yet been established. Yet the limited level of mutual commitment that makes alliance entry feasible is seldom sufficient to carry it through to success. As long as alliances are viewed as relationships to be constantly and patiently improved on, the level of commitment they enjoy from their partners can be gradually increased.

Calls for "commitment" make good rhetoric but are a poor basis for action. Commitment increases only over time, and an uncritical belief in commitment is naive and misleading. Nor can one ignore the fact that alliances, like other courses of action in business life, are always challenged by the existence of options and have value only in comparison with alternative choices. People, being largely risk averse, will always be tempted to hedge commitments and keep their options open in the face of uncertainty.

LONGEVITY VERSUS COMPETITIVENESS

Some observers equate alliance longevity with alliance success. They view an alliance as a marriage and the duration of the marriage as a yardstick of success. But are the couples married the longest always the happiest? In jurisdictions where divorce is illegal or highly restricted, the average marriage is long lasting. But this may be less a function of satisfaction than of a lack of alternatives. Not all alliances need to stand the test of time to create value, and, conversely, a long-standing alliance does not always create value for its partners.

Our observations of alliances indicate two things about longevity. First, longevity is driven by different factors in different types of alliances. It is only a revealing yardstick if one clearly understands the strategic logic of the alliance being measured. Indeed, what the alliance contributes over time to the competitiveness of each of its partners is a more important measure of success than longevity of the alliance proper. For example, some companies, such as Siemens in microelectronics, have used a succession of learning alliances to gain ground in an industry or regain competitive advantage. Given this strategic logic, using the longevity of each alliance as a proxy for success is like measuring a climber's progress on a ladder by how long he stays on each rung.

Second, uncertainty is bound to tax the longevity of alliances. Uncertainty itself can be taxing as it leaves room for divergent expectations between partners. Further, uncertainty may be resolved by unexpected changes, calling for changes in the alliance. Either the partners to an alliance adapt their relationship over the course of time or the relationship is unlikely to last. Hence to equate success with longevity, once the conditions have changed, would be misleading in the absence of other criteria.

With respect to longevity and success, the experience of traditional joint ventures may be misleading to the managers of strategic alliances. In many of the former, the partners combine assets in a common entity. The joint venture is thus a stand-alone, self-contained business, like any other; it just happens to be owned by two or more parents. For such a venture, longevity is indeed a measure of success, but no more, really, than the longevity of any business firm, particularly when the parents have relatively similar strategic and financial priorities. Consider the Dow Corning venture, which

has endured for more than fifty years. It is not clear what lesson of its longevity can be applied to the newer types of alliances, except perhaps that the alignment of performance demands between the parent companies is a prerequisite for long-term survival. If Dow and Corning, as coinvestors, are satisfied with the performance of Dow Corning, they will remain committed to it. But their commitment does not necessarily make them strategic partners.

Reconciling Priorities

Conventional joint ventures sometimes occur between actual or potential competitors. Nevertheless, they usually separate areas of competition and cooperation. The economics of the venture are sufficiently well understood by the partners for joint activities and their consequences to be clearly delineated. In current alliances, we find that separation between where partners compete and where they collaborate is much harder to achieve, partly because of the more strategic role of alliances and of their relatedness to other activities, partly because of the intrinsic uncertainty confronting many alliances, and partly because of the greater fluidity of partners' respective positions.

Rather than being separated, cooperation and competition must often be handled jointly, an exercise in ambiguity and duality for which few managers are prepared and that makes them acutely uncomfortable. They are naturally concerned about the acceptability of cospecialization and the risks of dependence it creates, about the trade-offs between value creation and appropriation, and even about the wisdom of trusting their partners.⁹

COLLABORATION VERSUS COMPETITION

Competition between partners was seldom an issue in traditional joint ventures. In market entry arrangements, global and local partners often collaborated, but the local partners rarely had global ambitions. This is no longer true. Following the example set by Japanese companies as early as the 1960s, many local partners now see their joint ventures with global firms as stepping stones to new technologies and

world markets. For example, a South Korean consortium entered an alliance with GEC-Alsthom, the European electrical equipment firm, to sell and build a state-of-the-art, high-speed train system in South Korea. The agreement, however, did not end there; it also called for extensive technology transfers and a licensing agreement that would allow the Koreans to compete directly with GEC-Alsthom.

In traditional arrangements of the type just described, the global partner controlled markets and avoided rivalry with local partners. Local partners received a share of profits or revenues but seldom turned into global competitors. Moreover, when several global companies joined forces, as in oil exploration and production projects, the economics of their ventures were usually transparent, and the interests of the partners sufficiently well aligned to leave little room for competition within the alliance, even though the partners remained competitors in the marketplace. In many of today's alliances, however, neither the economics nor the interests of the partners are clear. Furthermore, the shape of future competition is so ill defined that attempts at containing rivalry within the alliance are usually futile. Rivalry between partners in today's alliances can occur in the marketplace, within the alliance itself, or in both arenas at the same time.

Marketplace rivalry between alliance partners is a frequent source of tension. This was the case in the PowerPC alliance described earlier, which, in addition to semiconductor supplier Motorola, brought together Apple and IBM, both supplying personal computers. These firms had contrasting approaches to introducing the PowerPC. Apple rushed in, while IBM moved more gingerly. The differences may reflect not simply disparities in organizational agility but also divergences of strategic interest: Apple was driven to develop and roll out a more powerful microprocessor to compete with producers of Intel-based machines (of which IBM was one), whereas IBM may have been concerned about the risk of obsolescing its existing Intel-based products too quickly. It may also have expected to benefit more from using PowerPC to drive down Intel's prices and accelerate Intel's innovations than from sharing in the success of the new processor.

In the Airbus alliance, DASA, Aérospatiale, and British Aerospace aligned their strategic market interests as they competed as a group against Boeing. DASA wanted to increase its say in the alliance, and

presumably its share of returns, and the company used Boeing's attempts to woo it as leverage in getting what it wanted. This made the Airbus alliance, for DASA, a form of competitive collaboration with its partners.

Other partners find that rivalry calls for a totally new arrangement. ICL and Fujitsu, which formed an alliance in the 1980s, worked together closely on product development and manufacturing even as they competed in the market. Their competition for retail applications in the United States was a factor in their decision to shift from an alliance to a full merger.

Any form of rivalry between alliance partners complicates alliance management. The balance of power within the alliance (either between the partners or between the joint venture and one or more partner companies) can shift widely over time, particularly as the relative importance of the skills and experiences contributed by each partner varies. For example, when Xerox and Fuji created Fuji-Xerox in 1962, both the joint venture and Fuji itself were totally dependent on Xerox for product and process expertise, technology, brand credibility, and the business system of Fuji-Xerox, which emulated Xerox's North American leasing business. Over the ensuing decades, the relationship incrementally reversed itself. Fuji contributed major process skills,³⁰ then developed products that made Xerox and Rank Xerox (the European organization) increasingly dependent on it. Fuji-Xerox pioneered new sales and service approaches, such as indirect sales, within the Xerox group. By the 1990s, the balance of relative influence had shifted in Fuji-Xerox's favor. So too had the balance of financial return, with Fuji-Xerox charging up to a 20 percent R&D royalty on the price of its shipments to the rest of the Xerox group, whereas Xerox charged only 5 percent royalties on its sales to Fuji-Xerox.³¹

For many companies, collaboration through alliances has become competition by other means. IBM's participation in the PowerPC alliance was partly competitive and partly cooperative; it both collaborated and competed with Apple, gaining indirect leverage on Intel through the alliance. Analyses that do not acknowledge or understand that allied firms can be both partners and competitors miss the point of many contemporary alliances. Rivalry can emerge even in cases in which the partners do not compete in the marketplace, as occurred in the Iridium case.

INTERDEPENDENCE VERSUS UNBALANCED DEPENDENCE

Interdependence, stemming from cospecialization between partners, is the foundation on which successful alliances are built. Yet to stop here without asking whether cospecialization is balanced or one-sided is downright dangerous. One-sided specialization makes the specialized partner dependent, for example, by giving up key competencies and taking the risk of being subsequently dumped by partners who have found better alternatives or lost interest. Despite such obvious risks and well-publicized examples, we have often seen managers taking a simplistic view of dependency, again inherited from traditional joint ventures. For example, managers sometimes gain a sense of safety from formal measures of balance, such as equity shares in a joint venture, and fail to notice that their alliances, no matter how carefully balanced from a formal point of view, broaden the range of strategic options for their partners while foreclosing options for their own firms or that their partners come to control the tasks and competencies most critical to the success of the alliance, providing the basis for one-sided renegotiations of alliance gains.

Here again, as we already signaled in our discussion of outcomes being more important than mere inputs and outputs, complex strategic alliances require a wider, more strategic perspective on benefits and risks than do simple joint ventures. In the latter it was usually possible to separate areas of competition from areas of cooperation and to manage each area quite differently. Not always so in today's alliances, where both competition and cooperation coexist in the same areas. Alliance managers must have the capacity to handle duality and ambiguity and to take an attitude of self-interested cooperation—something that does not come naturally to managers steeped in the Manichaean dichotomy of "good guys" and "bad guys" (and in John Wayne movies).

TRUST VERSUS ENLIGHTENED SELF-INTEREST AND MUTUAL INTEREST

Trust, like interdependency and commitment, figures prominently in the lexicon of the alliance. Who could possibly say anything against trust between partners? Trust is obviously a good thing. Either we

trust or we distrust. But trust cannot be guaranteed before a relationship is established. Unless one collaborates repeatedly with the same partners, or unless a partner's reputation is very strong,² trust must be earned. Managers cannot be ordered to trust their partners, particularly when those partners are potential rivals. Instead, they can be encouraged to build trust over time through a collaborative process. In this process they should neither trust blindly nor act with such caution that cooperation is made impossible.

"Trust" means different things to different people. To some, it means putting one's interests in the hands of a partner, confident that that partner will act as a good steward. In business alliances, trust may take the form of giving another company the use of one's best resources, trusting it to use them in the best interests of the alliance.³ To others, trust is a function of dependence: the other party can be trusted because it is so dependent that it cannot afford to do anything "foolish." Another form of trust rests on confidence in one's ability to predict the behavior of another party. This confidence, in turn, is based on a superior understanding of the other party's situation and self-interest.⁴ To still others, trust is a matter of ethical standards.

Trust is a simple, powerful, and emotionally laden word. As such it can be a source of confusion if used prescriptively for alliances. To avoid possible confusion, we suggest that partners replace trust with "enlightened self- and mutual interest," a concept that drove British diplomacy and foreign policy in the nineteenth century. As a basis for alliances, this is more appropriate than the idealistic but perhaps hollow concept of trust.

Managing in a Web of Alliances

A fourth distinguishing feature of many contemporary alliances is that they cannot be understood except as part of a web of relationships, a "web" being an interdependent set of alliances.

Traditional joint ventures were self-contained to the point of being manageable without considering other relationships. For instance, Dow Corning, created in 1943, mostly makes silicon-based lubricants and has been an outstanding success. One does not need to understand the entire range of Corning's or Dow's other alliances

to understand Dow Corning's strategic development. As we will note in a later chapter, Corning followed a policy of keeping each alliance and each partner strategically separate. Most recent alliances, on the other hand, belong to an interdependent web. Thus, we cannot understand the strategic linkages between Motorola and Toshiba without also understanding each company's other alliances. Similarly, positions taken by Aérospatiale and DASA in one or another alliance may have been motivated by linkages between them in other fields and by their alliances with other companies. One cannot understand alliances in satellites without being aware of alliances in missiles, helicopters, or aircraft.

Bilateral alliances still account for the bulk of all alliances, but fewer and fewer can be understood outside of a broader context of multilateral collaboration. The level of ambiguity created by these cross-linkages can be confusing and can defy logical structuring. Some companies, confronted with a proliferation of alliances in their various businesses, have given up trying to maintain order in the myriad alliances in which their operating units participate.

If one does not give up to chaos, though, it may be useful to distinguish various ways in which the multilateral nature of today's alliances makes their management difficult. Multilaterality creates difficulties at the following three levels:

1. *Between partners who comprise a single alliance.* Within a single alliance, a multiplicity of partners, each with its own stakes, constraints, and ambitions, can create problems. CASA of Spain has a small stake in Airbus's work share (4.2 percent) but a full partnership role, including veto power over joint decisions. This veto power complicates Airbus management. Its members acknowledge that differences between the major and minor partners delayed the launch of Airbus's first narrow-body, single-aisle jetliner, the A320, by more than a year. That delay gave rival Boeing a strategic opportunity to establish its second-generation B-737 in the early 1980s.
2. *Between multiple alliances involving the same partners.* DASA and Aérospatiale are allied in many businesses: space launchers and satellites, missile systems, helicopters, jetliners, military transport, and others. Yet the two companies competed actively in the commuter plane market. There, Aérospatiale was allied with Alenia of Italy, and DASA had acquired Fokker, a manufacturer

of commuter planes in the Netherlands. That acquisition was viewed with concern by some at Aérospatiale, who feared that DASA would cut prices in the already crowded commuter plane business, making it quite unprofitable for Aérospatiale. Weakened profits, in turn, would deprive Aérospatiale of the cash flows it needed to match DASA's investments in other businesses and thus to hold its own, financially, in the many alliances and joint ventures between the two companies. While this fear was exaggerated, the concern was sufficiently plausible to threaten relationships between the two companies.⁵

3. *Between different alliances in a network of conditions.* Finally, a multiplicity of separate alliances may lead a company to lose focus and consistency as well as bring about a fragmenting of its resource commitments—the chaos alluded to earlier in the chapter. In 1992, for instance, Olivetti's chairman, Carlo de Benedetti, publicly praised his company's participation in 229 strategic alliances. Although Olivetti was run strategically and centrally, one can only wonder at how strategic consistency was maintained across these many alliances. The issue becomes even more problematic in companies such as DEC (or, for a while, IBM) that have decentralized themselves into small entrepreneurial units. For these companies, a web of alliances may look very impressive, but they may also be disjointed and lack cumulative logic. Contrast this with Fujitsu's approach: in mainframe computers it achieved half the R&D and manufacturing scale of IBM through a purposive web of alliances with ICL in the United Kingdom, Amdahl in the United States, Siemens in Germany, and other partners. Multilaterality was exploited by Fujitsu to build a strong nodal position at the center of the web linking its various partners.⁶ More often than not, however, multilaterality seems to result in confusion, conflict, and loss of focus, if not worse, or in one company being "cherry picked" or held hostage by better strategically coordinated partner-competitors.

MARRIAGE VERSUS REALPOLITIK

Marriage is the most commonly used analogy in the popular literature of strategic alliances. This analogy is emotional and affective and speaks to a sense of unity and common purpose: in "sickness and in health until death do us part." Perhaps this is an apt analogy for

mergers, which create a common entity, but not for alliances. Contemporary alliances maintain the separate identities and integrity of individual partners, and in so doing, protect their self-interests.

Better analogies for alliances are found in statecraft—in particular, the past few centuries of European diplomatic and military history. Here we observe the simultaneous management of viable coalitions built on a number of bilateral relationships, each with its own history. A notable example is found in World War II, when the United States allied itself with both Britain and the Soviet Union. The U.S. alliance with Britain was anchored in a deep-rooted "special relationship"; its relationship with the Soviets, in contrast, was opportunistic. The United States had little in common with the Soviets, and many Americans viewed it as a pariah state; yet both countries had a common enemy in Nazi Germany. The issues of trust, collaboration, cospecialization, ambiguity, and rivalry—all of which have been described in this chapter—were present in the U.S.-British-Soviet alliance. Indeed, the parallels between geopolitical and business alliances are many, and managers should turn to history as a worthy source of inspiration and guidance.⁷

SINGLE RELATIONSHIPS VERSUS ALLIANCE NETWORKS

While analyzing individual alliances can be useful, they make little sense outside of the broader web, or network, of relationships in which companies and their partners are involved. We believe therefore that being sensitive both to the integrity of individual alliances and to the embeddedness of each alliance in a broader web is fundamental. This, of course, becomes more difficult as a company's alliance web expands. Only a simultaneous consideration of all the linkages in the web makes it possible to understand and manage effectively. Few companies, and fewer managers, are equipped to grapple with the complexities of this task.

Summary

We have found in our research that the most important starting point in a successful alliance is the adoption of a mindset and set of attitudes by managers that allows them to function in environments

characterized by instability, few fixed objectives, ambiguity, and evolving partner relationships. Alliances cannot be crafted and set on "autopilot." They require ongoing management of the relationship within a clear strategic framework. Nor can they be treated as mere "projects." For most companies they have become too central to strategy to be relegated to project status.

Alliance management is a wonderful test of general management skills—here, purpose and flexibility, analytical powers, entrepreneurial instincts, and organizational and political skills must come together.

❖ 2 ❖

DISCOVERING VALUE IN ALLIANCES

WINNING THE RACES to the world and to the future requires speed and a strong sense of direction and purpose. Common sense would suggest this is best accomplished by a single organization, not by a motley alliance of partners. Yet few organizations, if any, have what it takes to run these races alone. The idea that many heads and many complementary sets of skills working together are better than one is intuitively appealing. Still, it is natural to expect that partners will not be of one mind. When the path suddenly branches into several different directions, it is too much to expect level-headed discussion, agreement, and a decision to follow one or another. Running as a loose coalition, allies must pause to debate which path to take among many and whether running the race is still worth the effort. Too many of these pauses will surely cost them the race. This suggests that a strong shared commitment to playing as a team is critical.

Racing as a team requires several preconditions. One needs to be able to keep one's bearings in unstable conditions and uncharted territory. A compelling but realistic motive for running a particular race is key. Partners must want to win the same race, even if each one

has a different reason for running. Each partner must understand the value of running as a team, that is, what and how each member contributes to increase the odds of winning. The difficulty, obviously, is that an alliance race often lacks a clear goalpost, or at least one that can be identified at the start. Partners also need to share a common map of the terrain their alliance will lead them to cross.

Given the challenges most alliances face, partners must fully appreciate all the benefits they can expect from the alliance, so they do not lose their sense of purpose when confronted with unexpected setbacks. It's important to use a scorecard to measure the progress of both the alliance and each partner toward value creation and benefits. This scorecard should be sufficiently robust to capture the hard-to-measure values and benefits described in the previous chapter. The map can be used to direct efforts in the race toward those benefits, and the scorecard, both for the alliance and for each partner, can measure progress toward them.

Alliance partners who attempt to assess potential benefits often fall into one or both of two traps: (1) making excessive ambitions and overly optimistic assessments of benefits and (2) defining the range of potential benefits too narrowly. Excessive ambition over a narrow front is often a recipe for disaster. Ambitions are either too grand to be realized or so narrowly defined that other value creation opportunities are overlooked.

Some companies run into both difficulties within the same alliance. The partnership between AT&T and Olivetti mentioned in Chapter 1 is a case in point. Both AT&T and Olivetti had lofty but very broad ambitions: to position themselves strategically for the future convergence of communications and computing; to combine AT&T's technical strengths with Olivetti's marketing capabilities; and to complement their presence in Europe and the United States. Unfortunately, the two companies' minicomputer products were so far apart in architecture, standards, operating systems, applications software, and target markets that bridging the gap between them through a single new product line was unrealistic. Short of implementing the grand visions of their CEOs, which tended to dissolve on close inspection, the partners fell back on simply trading products.¹

Even this limited initiative had little success. AT&T lacked the skills to distribute Olivetti's personal computers in North America,

and Olivetti had little experience in marketing private telecommunications switching systems. Each partner thus found it very difficult to move from extremely ambitious, yet abstract, statements of potential benefits to actual value creation through real cospecialization. Disappointment quickly crept into their relationship.

Too exclusive a concern with immediate tangible benefits, such as measurable financial returns, prevents alliances from realizing their full potential. Less tangible, less easily predictable benefits, such as knowledge transfer between partners, benchmarking against partners, reducing market uncertainty, and so forth, are often ignored. When these benefits are not part of the initial alliance expectations, they may remain unsought, unnoticed, and unexploited. AT&T and Olivetti, for example, learned relatively little from each other about technologies and markets even though they recognized the benefits of doing so. They focused so much on tangible benefits that they failed to take the time and trouble required for learning.

Whether facing an excessively ambitious or overly narrow plan for the scope of the alliance, the essential point remains the same: discovering the full range of potential benefits is a prerequisite to building an alliance that creates value.

The Logic of Alliance Value Creation

Most strategic alliances serve one or several strategic imperatives. If a company is racing for the world—that is, attempting to make the most of global opportunities—it will form an alliance to do what it cannot do alone, which is usually one or more of the following:

1. build critical mass globally or in a specific new market
2. learn quickly about unfamiliar markets and become an insider
3. access skills concentrated in another geographic location (such as fashion design skills in Italy or software design skills in the United States)

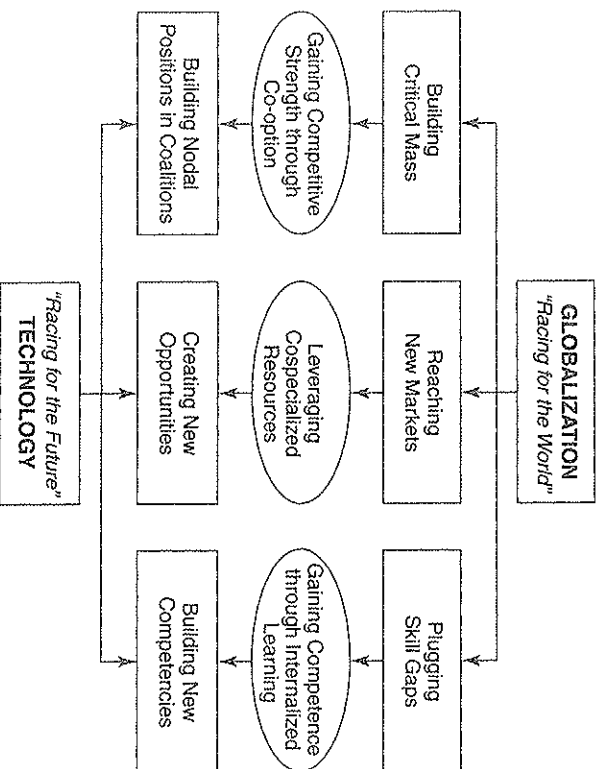
These are the most common requisites for winning the race for the world. Each represents an opportunity to create value for the alliance and its partner firms.

The firm that is racing for the future may also find that alliances have their own means of creating value:

1. building nodal positions in coalitions aimed at creating new markets
2. creating new opportunities by combining skills and resources
3. building new competencies faster than would be possible through internal efforts

While the strategic use of alliances in the races to the world and to the future appears much different on the surface, we find that the use of alliances in both races shares a common set of underlying "logics." The benefits to be gained from each of these logics is what managers should look for as they design their alliances, set objectives and score-keeping procedures, and guide day-to-day activities. As shown in Figure 2-1, these common, underlying, value-creating logics are:

FIGURE 2-1 *The Logics of Alliance Value Creation*



1. gaining competitive capabilities through co-option
2. leveraging cospecialized resources
3. gaining competence through internalized learning

Not surprisingly, these are the fundamental imperatives that drive companies to form alliances: the need to position themselves strategically and gain competitive capabilities through the co-option of rivals and complementary firms, the need to combine their resources through cospecialization so as to access new markets and create or pursue new opportunities they could not consider on their own, and the need to learn through alliances, both to overcome skill deficits and to acquire new competencies.

Alliances make it possible to build the critical mass and global presence the race for the world requires. British Airways (BA) discovered this in its efforts to break into the larger U.S. and Latin American markets dominated by United Airlines and American Airlines. In its proposed partnership with American Airlines, BA is hoping to build critical mass in the American markets. Further, partly to make itself more attractive as a partner in global alliances and acquisitions, weaker regional airlines in continental Europe and gained access to additional hubs, such as the Orly airport in France, which American Airlines uses as well. Similarly, Fujitsu sought ICL, Amdahl, and Siemens as partners, in part to acquire "virtual market share"—that is, to build critical mass and become competitive with IBM. In the 1980s, Fujitsu's visible market presence under its own brand was only about a tenth of IBM's, but including its partners, its actual market presence was roughly half the size of IBM's. Fujitsu was pursuing a clear co-option strategy, wherein the starting assumption was "My enemies' enemies are my friends."

The race for the future also calls for critical mass of a sort, the competitive momentum and the coalition skills needed to lead a race that leaves room for very few winners. This "winner-takes-all" contest can often be traced to technical standards and the network effects they trigger. Building critical mass in one's industry to establish a "de facto" standard and making one's own coalition attractive to customers through accessing and tying "complementers" (providers of complementary goods and services that enhance the value of one's offerings to customers) from related adjacent industries are the two fundamental drivers of alliances in that situation.

The current wave of media alliances—from Kirch-Bertelsmann in Germany to Dreamworks-Microsoft or Hughes's direct TV in the United States—is an example. Leading firms in these new coalitions attempt to build nodal positions to control the high ground of future reconfigured industries.³

Alliances also allow firms to meld resources and capabilities that are “cospecialized” (that is, to create value by virtue of their very combination and melding) and that could not be easily combined by means other than alliances.⁴ This is particularly true when the resources are very specific to each partner and hinge on their continued independence and integrity. For instance, as we discuss more fully later, the French state-owned jet engine maker, SNECMA, brought to its U.S. partner, General Electric, both its privileged relationship with the French government (and the Airbus consortium) and its expertise in military engines, which could be applied to civilian jet engines.⁵ An acquisition of SNECMA by GE, assuming it was politically feasible, would not have preserved either, whereas a simple codevelopment contract might not have provided for a strong enough commitment on GE's part. With its politically savvy French partner, GE was able to short-circuit the long and tortuous process by which a foreign firm becomes an insider in a nationally sensitive industry. Of course, in essence, Iridium provides another example of a cospecialization alliance.

Alliances may also serve as privileged vehicles for learning and internalizing new skills, particularly when those skills are embedded, tacit, and collective and require extensive “copractice” to be learned. In this, conventional technology transfer and licensing agreements would not suffice, and independent development would be slow and difficult.

Thus, alliances create value in different ways depending on the motives they serve. Figure 2-1 offers a comprehensive view of the various imperatives of the races for the world and the future and of the alliance strategies through which companies respond to them.

These different paths to value creation naturally affect the ways in which alliances should be designed and managed. They also call for different expectations and performance measures. Thus, a first key step in developing a value-creating alliance is to understand how these different logics achieve alliance objectives, performance, and value creation.

Value Creation through Co-option

Co-option turns actual or potential competitors and “competitors” into partners. In the race for the globe, co-option is a means of reaching the critical mass needed for effective competition. In the technology-driven races to create new markets, co-option supports the building of powerful nodal positions in emerging coalitions, particularly where standards play a key role and network effects create strong first-mover advantages.

BUILDING CRITICAL MASS

As competition widens from national to regional and even global arenas, the rules of competitive engagement often change, and new rivals appear. When this happens, critical mass is extremely important. The case of European telecommunications provides an example. In 1997 Deutsche Telekom and France Telecom, two of Europe's most traditional national telecommunications service operators, faced the prospect of the complete liberalization of telecommunications services. Both worried about the strength and the entrepreneurship of major competitors, British Telecom in particular. British Telecom would challenge the two companies in their home markets (it had already stationed hundreds of marketing and sales people in France). It had also spun a web of alliances in other parts of Europe and was teaming up with MCI, a major U.S. long-distance provider. Deutsche Telekom and France Telecom were also threatened by AT&T, the kingpin of U.S. telecommunications, which was building its own network of alliances with national operators in smaller European countries.

Faced with these developments, Deutsche Telekom and France Telecom entered into an alliance designed to merge some specialized services, avoid rivalry between themselves, and counter British Telecom. This alliance gave the two firms a critical mass in continental Europe that improved both their competitive capabilities and their bargaining power in subsequent alliances. Together, they could gain a joint 20 percent stake in Sprint (the third largest long-distance service provider in the United States), giving them access to North America and to other markets where Sprint had expanded. These combined alliances, they hoped, would secure their home bases and give them global reach.

BUILDING NODAL POSITIONS

Besides building critical mass in a market, alliances can also help a company become a "node" in a network, a position from which it can lead the development of new industries and competitive arenas and command the lion's share of profits. This challenges companies to seek alliances with both complementers and competitors, their goals being to:

1. exploit new opportunities and meld a wider set of differentiated resources than any company would possess on its own
2. co-opt "unaligned" competitors and complementers into their own camp, sometimes because they can contribute valuable cospecialized and differentiating resources, sometimes to prevent them from falling in with a rival coalition⁶
3. build market leadership quickly; being first matters most when the advantages that accrue to first movers are substantial (most often because technical compatibility needs—what economists call network externalities—leave little room for incompatible new solutions once the first one is established on the market)

Co-option makes potentially attractive partners unavailable to competing alliances. This triggers a race for control of the critical differentiating resources that will confer competitive advantage externally and bargaining power internally, within the alliance.

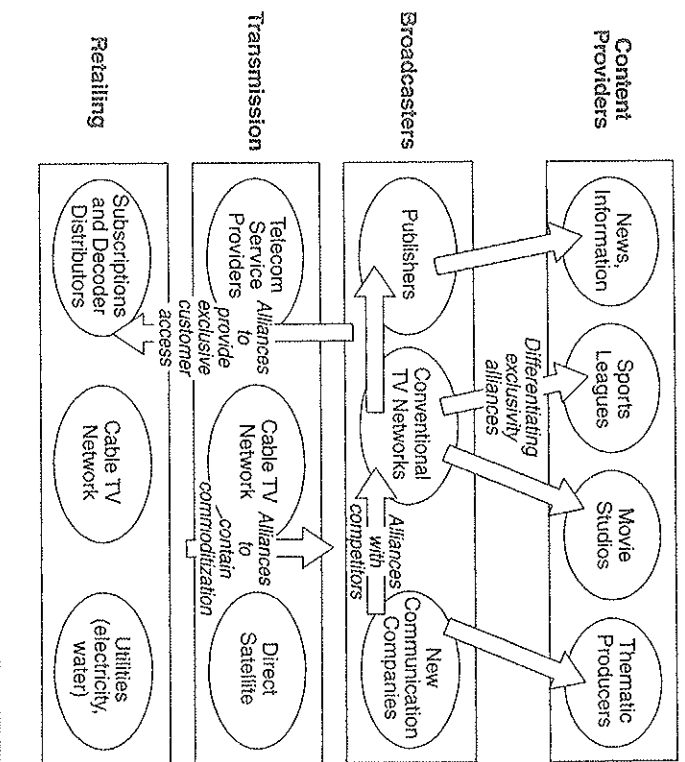
Perhaps nowhere more than in the current development of the digital broadcasting industry have efforts to gain nodal positions by means of co-opting competitors and complementers been so visible. Consider digital television in Europe. In their race to establish their own digital system, broadcasters have allied with content providers, usually the owners of rights to existing material—movies and televised events, such as large audience sporting events. Such access allowed the broadcasters to differentiate themselves from their competitors. Members of coalitions that failed to gain exclusive access to unique popular content were often quick to shift allegiance. These coalitions collapsed, and their members took back seats on other coalitions. Broadcasters have also allied themselves with companies that control distribution channels, in particular with cable-TV companies and some major retailers, to gain mass market access quickly. Put differently, the broadcasters took the initiative to introduce digi-

tal television. Conscious of the high network externalities of broadcasting, each tried to make itself attractive to consumers quickly by entering into alliances (depicted by the vertical arrows in Figure 2-2) with content providers, to differentiate their program offering from that of their competitors, and, with existing distributors and service providers, to gain instant access to the consumers' homes (except for direct broadcast satellite services, which sometimes promoted their services and distributed their hardware—antennas and set-top decoders—directly). In doing so, the broadcasters jockeyed for position in a complex, Europe-wide chess game and staved off potential entry by other types of communication companies, such as traditional print publishers or content owners (although at least one British soccer club went into broadcasting). The "vertical" alliances across market segments (the "layers" of Figure 2-2) allowed some broadcasters, such as Canal+ and NewsCorp, to take a leading position in digital television and keep new competitors out. While the exact configuration of alliance linkages differs from country to country and keeps evolving, the underlying patterns are similar. The logic of interactions between competitor co-option and complementor co-option is depicted in Figure 2-2.

The speed at which alliance webs such as the one sketched above are spun and coalitions are built varies with the nature of the opportunity. Speed is of greatest importance when network externalities leave room for a single or, at most, very few winners. This is the case in digital TV, where consumers are unlikely to enter several subscriptions and equip themselves with multiple decoders and other access devices. The race for subscribers is very intense, and the right partners can help. The proliferation of information and entertainment businesses based on one type of network or another explains why we see such a rush on the part of such innovative companies as Kirch, Murdoch, and Canal+ in Europe and Hughes, Microsoft, and Time Warner in America.

In these situations, first-mover advantages are strong, provided the first mover manages to capture the opportunity. A flashback to a "classic" competitive race between Sony and Matsushita for the VCR market in the late 1970s illustrates the point. Sony failed to take advantage of its first-mover position, making it possible for Matsushita to capture industry leadership. This case shows how alliances can be used to set the terms of competition in one's favor.

FIGURE 2-2 Patterns of Co-option Alliances in Digital Television Broadcasting



In the mid 1970s, when home-use VCRs first became available, the industry leader was Sony with its "Betamax" standard. In 1976, JVC, a partly owned affiliate of Matsushita, introduced the "VHS" standard in direct competition. In the space of only two years, JVC took industry leadership away from Sony and established VHS as the dominant standard. JVC became the nodal company in the VCR industry. At the same time, it thwarted entry by Philips and its standard and launched the VCR industry on a fast growth track that made it the biggest consumer electronics success of the 1980s. All of this was achieved with a product that was generally regarded as technologically inferior.

How did JVC do it? Its alliance strategy provides most of the answer.

The VCR is an example of a product that had significant network externalities. For consumers, a great deal of the value of a home VCR depended on how many other customers were using the same

tape format. The more people who owned VHS machines, the greater the availability of retail VHS cassettes. And as VHS cassettes gained share in the video stores, fewer and fewer new VCR customers would buy anything other than a VHS machine. Soon many video stores stopped carrying Beta cassettes altogether, and VHS became the undisputed leader.

This outcome was heavily influenced by the alliance web JVC put together. Rather than adopt a restrictive and costly licensing practice—as Sony had done with Betamax—JVC made the VHS standard available to all for a modest licensing fee and actively promoted adoption of the standard. The establishment of VHS as a standard facilitated prerecorded videocassette distribution, especially in the video rental market. There the existence of a single, dominant standard made it possible for video stores to carry a much wider selection of movies and other recordings (and more copies of any given title) than would have been feasible with two or more incompatible standards. Video rentals, in turn, contributed to the rapid take-off of the home VCR market.

JVC, despite its somewhat inferior technology (at the time this crucial battle was won, Betamax's image quality was slightly better and its tapes allowed longer recordings), succeeded in co-opting companies such as Thomson in Europe and RCA in America and in occupying the nodal position in the coalition it built. These were companies that might otherwise have joined forces with JVC's rivals. This wide co-option and coalition strategy gave JVC parent company Matsushita three distinct advantages:

1. Matsushita was able to preempt distribution capacities. Companies such as Thomson and RCA brought their market shares and distribution channel strengths into the VHS camp. Matsushita could then feed that distribution pipeline with a fast ramp-up of manufacturing capacity.
2. Widespread acceptance of the VHS standard fostered faster market development.
3. Matsushita could play the game it is most effective at: rapid ramp-up toward mass manufacture of components and OEM products, cost reduction, a flooding of the market with high-quality, low-cost standardized products, and preemption of slow-moving competitors.

Where high network externalities exist, strategic co-option through the establishment of common standards generally brings several specific benefits to the members of winning alliances: strong first-mover advantages; the ability to define what will and will not become a basis for product differentiation; and the ability to collectively define technological trajectories, making the path of innovation more predictable and more favorable to alliance partners.

Co-option alliances, along with the building of strong coalitions and nodal positions, not only foster leadership of the nodal firm at one particular stage in the value-added chain. They may also enhance the profitability of that particular stage and enable firms active in it to collectively capture a bigger share of the total margins in the value chain, attracting partners at that stage and weakening companies that participate to total value creation at other stages in the chain. In the context of using alliances to redistribute margins between stages in the value chain, let's briefly consider the PowerPC alliance again.

When Apple, IBM, and Motorola teamed up to develop a new computer chip compatible with both Intel's and Motorola's, they clearly wanted to increase the rivalry in the microprocessor industry, to Intel's detriment and to their own advantage. They also wanted to increase rivalry in the software industry—to Microsoft's detriment—by broadening the market for Apple software (Apple uses the Motorola chip). For IBM, this rivalry in the microprocessor and software industries could create more competition upstream, where Intel and Microsoft exercised strong market power, and redistribute some of the PC industry's total margins toward the end-product business. IBM faced more intense competition there than either Intel or Microsoft, which were protected by their intellectual property rights on microprocessors and operating systems, respectively, and by strong network externalities for Microsoft.

Finally, co-option can channel rivalry: influencing which race will be run and who will be best positioned to win it. Standards, as described above, have a tremendous impact on competition and outcomes. Standard-setting alliances direct competition to specific areas or products and may throw some competitors off their preferred migration path. They lead markets toward the strengths of the alliance partners and away from those of competitors, making the latter's migration toward new competitive arenas and new markets less likely.

Some contests, such as that for high definition television (HDTV), are fought largely on this issue of migration paths. The opposition of European consumer electronics companies to Japan's "Hi-vision" MUSE standard for HDTV in 1987 stemmed from MUSE's incompatibility with existing TV broadcasting standards.⁷ Adoption of MUSE would have encouraged the rapid replacement of existing sets with HDTV sets built to Japanese specifications and drawing on Japanese manufacturing strength. European firms, who were then busy trying to plug major skill, productivity, and quality gaps in TV manufacturing, would have been in a poor position to compete for this tidal wave of new business. European insistence on compatibility between installed broadcast standards and HDTV blunted the Japanese advantage by ensuring slow replacement of the existing base of TV receivers.

Compatibility also had the advantage, for Japan's competitors, of making access to software (mainly libraries of movies) less important, thus neutralizing the effects of Sony's and Matsushita's massive investments in the U.S. movie industry. This threw Japanese suppliers off their preferred migration path and onto the one favored by their Western rivals.

In sum, in activities characterized by high network externalities (a common feature in interactive information technologies), standard-setting alliances influence market development and direct its course. These alliances win the race for the future and, in "winner takes all" contests, are the only ones to cross the finish line. Companies that manage to build and sustain nodal positions in these alliances stand to reap huge benefits and to gain an influence that extends well beyond their size and resources. JVC for consumer electronics yesterday, and Microsoft for personal computers today are perhaps the most consummate masters of that approach.

Value Creation through Cospecialization

Cospecialization is the second compelling logic that drives value creation through alliance. Firms that race for the world often need local partners to gain market access and global partners to complement their skills. In the technologically driven race for the future, partners with specific skills likewise find value in combining forces to create

and exploit new opportunities that call for a broader range of skills than either partner has on its own.

BECOMING AN INSIDER IN NEW MARKETS

New markets are eagerly pursued by global companies, particularly in oligopolistic industries like automobiles, whose home markets are often mature and slow growing. Alliances with local firms in emerging markets are a favorite mechanism in this pursuit. This is often a necessity when market entry is restricted by government and when companies must secure a local partner to become an insider. For auto makers, for example, the Chinese government has closed the window of opportunity to all but a few large ventures. Even in new segments, such as minivans and sports utility vehicles, Chinese authorities have restricted entry to a single supplier, Mercedes-Benz, which was chosen over Chrysler and others on the basis of past commitments to China and its stated willingness to transfer technologies and relinquish intellectual property rights. In the elevator industry, China originally left room for only a very few joint ventures. Although this number was later expanded, the early entrants, Schindler, Otis, and Mitsubishi, kept an advantage over later entrants.

Competition to access markets around the globe is even fiercer in telecommunications, where network economies remain enormous and leave room for only a few operators. Thus France Telecom and Deutsche Telekom, as noted earlier, have sought to gain access to new markets through an alliance with Sprint, while also shoring up their domestic positions. In Latin America, in the meantime, France Telecom has rushed to acquire a stake in potentially lucrative telephone system operators in Argentina and Mexico, while the Spanish firm Telefonía has invested in Chile and Argentina. The American regional Bell companies are partners to many telecommunications alliances in newly opening economies. Table 2-1 illustrates the extent of European and U.S. alliances in the telecommunications services of Argentina. The structure is similar in Chile, Mexico, and a growing number of other countries.

Why do competitive races for access to new markets lead to alliances? In the race for the world, companies find that their skills—no matter how sophisticated—are insufficient for rapid expansion into unfamiliar new markets. For example, in taking over part of

TABLE 2-1 *European and U.S. Telecommunications Alliances in Argentina (selected examples)*

SECTOR	KEY PARTNERS AND OWNERSHIP PERCENTAGES
Local Telco: Telecom (Northern)	NORTEL Consortium (60%) [consists of STET (32.5%), France Telecom (32.5%), Perez Companc (25%), and J. P. Morgan 10%]; Public/Telecom employees (40%)
Local Telco: TASA (Southern)	COINTEL Consortium (60%) [consists of Telefónica de España (10%), Citicorp (20%), Banco Central (12%), Inversora Catalinas (8%), Sociedad Comercial del Plata (5%), and other (45%)]; Public/TASA employees (40%)
Wireless: MOVICOM	BellSouth (39%), Motorola (35%), BGH (20%), SOCOMA (16%), and Citicorp (8%)
Wireless: CTT*	GTE Mobile (33%), AT&T (10%), Teléfono SA (20%), TCW Americas Development Association (5%), Compañía Austral de Inversiones (20%), and Inicel SA (20%)

* Due to rounding, percentages do not total 100.

Argentina's telecommunications network in 1990, France Telecom had to rely on the contributions of others. Italy's STET (the diversified telecommunications services and equipment group) for complementary experience and competencies; J. P. Morgan, one of Argentina's most important international creditors, for financial engineering; and the Perez Companc Group (a diversified Argentinian business empire) for "insider" expertise and a means of maintaining a credible local face. Operating on its home turf, France Telecom did not have to worry about the fact that it lacked these capabilities. Once it stepped into Argentina, they mattered. Globalization requires access to new and complementary skills, and alliances make it possible to acquire them quickly.

The relationship between the big foreign partner and the more politically savvy local partner is often delicate. The balance of contributions between local and global partners generally follows this model: the local partner contributes the knowledge and insider skills needed to crack the local market; the foreign partner provides the specialized skills and other resources to serve it efficiently. Subsequent balance between the partners is conditioned by the nature of the products involved, by the characteristics of the market, and, to a degree, by the experience of the global company and the ambitions of the local partner(s). As the foreign global company accumulates

experience and self-confidence in the local environment, its need for the local partner may diminish. Yet once it has made a commitment, and invested resources, the local partner and its local allies may hold it hostage. This evolution is most clear in alliances between global manufacturers and local distributors, where many distributors are ultimately taken over or replaced by the manufacturers. BMW, for instance, set up its own distribution in Japan, abandoning its former distributor. Japanese car makers do the same in Europe.

On the other hand, local partners have used alliances to propel themselves into global competitive arenas. In the 1960s, for example, many Japanese companies used alliances with American and European partners to learn technologies and skills and to gain an understanding of foreign markets. While their Western partners typically saw these alliances as traditional market entry joint ventures, the Japanese companies saw them as stepping stones in the race for the world. More recently, Taiwan's Acer used its alliance with Texas Instruments to propel itself into the world market for personal and, more recently, laptop computers.

CREATING NEW PRODUCT AND SERVICE OPPORTUNITIES

Many opportunities, such as the satellite-based telecommunications system pursued by Iridium or the Hughes satellite direct broadcast television system, are simply too complex for any single company to tackle alone. The range of required skills is too broad. Ironically, these opportunities are appearing at a time when many companies are more narrowly focused and prefer to "stick to their knitting." Companies have become more selective about what they do in-house, and they place greater focus on the maintenance and development of core competencies. Competence-based strategies, in turn, reinforce the need for alliance-based skill complementation when pursuing new opportunities. Even traditional industries such as auto makers call for a wider and wider range of skills as, for example, their electronic content increases.

In newer industries, product complexity calls for an even greater skill range. Take personal computers. In the early days, a PC was a black-and-white monitor, a crude printed circuit board, a basic microprocessor, and a simple keyboard. In contrast, today's laptops require high-resolution color displays with complex flat-screen tech-

nologies, a high-performance hard disk drive, a CD-ROM drive, high-energy batteries, and world-class packaging and miniaturization skills. No single company can produce all of these key components or provide all the requisite skills. Sharp and Toshiba are the leaders in flat-screen displays, Sony in miniature disk drives, while other companies provide CD-ROM technologies. This diversity of technologies and skills makes it necessary for companies to work together—often as partners. Apple's Powerbook laptop and its Newton personal digital assistant, for example, taxed Apple's capabilities for miniaturization, leading it to seek out Sony and Sharp as partners.

Alliances bring together partners whose capabilities are complementary for the exploitation of a particular opportunity (such as laptops) but rooted in a much broader range of activities—Apple's broad range of personal computers, Sony's tradition of miniaturizing consumer electronics, and Sharp's skill in densely packaged electronics. The various partners thus bring to the alliance competencies that have already been cultivated across a much wider range of opportunities than the ones they pursue together.

Many of the new opportunities in the race for the future are based on "hybrid" technologies that combine scientific disciplines, as have biotechnology, optoelectronics, and bionics for biological computers for instance. Here the underlying specialized know-how is likely to be spread across several firms, uncertainty is high, and the melding of necessary skills is extremely difficult. If combining disparate scientific disciplines into a single, usable technology is a first-order complexity, combining various technologies and integrating them into products is a second-order challenge.

Many other new market opportunities involve complex systemic solutions—a third level of complexity. These solutions hinge on integrated service and network-based systems that blend hardware, software, and services and that call for the coordinated development of complementary innovations and the successful integration of technical, political, regulatory, and financial requirements. Highway traffic management and travel guidance systems, such as those Siemens will supply in Europe, are examples. Siemens systems will rely on information collected by individual automobiles and automatically broadcast to traffic management computers, which will send recommendations back to motorists. These systems will require the cooperation of public road departments, town governments, telecommunications

equipment suppliers (in this case, Siemens and Philips), software designers, radio frequency regulators, automobile manufacturers, and car audio systems suppliers.

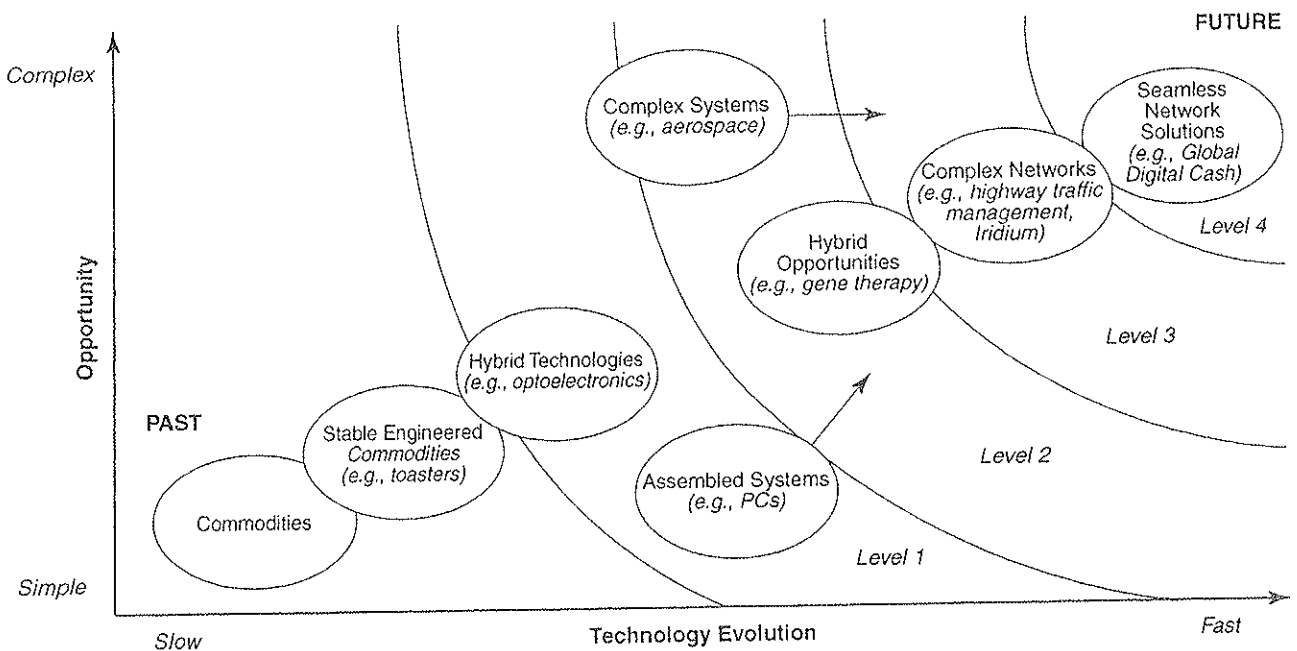
Like many such solutions, these will be subject to high network externalities and first-mover advantages. Network externalities and first-mover advantages require the solution to be "right the first time," as there may be no chance to be a follower and catch up, while not getting it right may stifle market development and leave room for a "second-generation" solution. In these types of alliances, the coalition acts as a convergence arena and a forum for validating technology and architectural choices; it mobilizes the knowledge and insights of a constellation of players to reduce uncertainty, and it ensures that their interests and limitations are considered in the design of the solution. Such alliances thus simultaneously pursue the goals of strategic co-option (through a setting of the terms of competition in a given market, as in the case of the VCR) and resource/skills complementation (in the exploitation of the opportunity itself). As in the case of Iridium, these motives interact in the building of such alliances.

The developments we have described—hybrid technologies, products that bring together many technologies, and system solutions—explain why so many firms now race toward the future with alliance partners. Increases in the pace of technical change and in the complexity of available opportunities make alliances a natural response for individual firms. The current tendency of these same firms to focus on a narrower range of competencies and technologies only exacerbates the need for capable allies. Figure 2-3 sketches the nature of the challenge posed by the evolution and speed of technology.

Value Creation through Learning and Internalization

As companies compete in global markets, skill deficits are soon apparent and quickly debilitating: globalization makes local companies vulnerable to competitors that have developed and polished skills in distant and more demanding markets. U.S. auto makers, for example, hemorrhaged during the early 1980s when superior Japan-

FIGURE 2-3 Shifting Opportunities in the Race for the Future



ese imports invaded their domestic markets. The Japanese had superior skills in design, manufacturing, quality control, and management, and the value of these skills was tangible and apparent in the products they sold. Had the American firms not plugged the skills gap, the U.S. auto industry might have withered away.

Unless plugged rapidly, skills gaps can kill or debilitate weaker competitors, particularly as their rivals continue to build new skills and use them for competitive advantage. Thus, competitive races are also races to learn and internalize new skills.

Companies often turn to alliances to win the learning race. These are often faster and more effective than alternative approaches to learning. Internal development, for instance, is often slow and uncertain. Even purchased technologies require time to learn and may be linked to other company-specific skills. Acquisitions, another approach to skill acquisition, are often filled with unpleasant surprises: competencies may not move to the acquirer easily; the skilled personnel employed by the acquired firm sometimes resign and join competitors.⁸ Given these pitfalls, alliances are often the best way for companies to quickly acquire and deploy new skills.

The experiences of American and Japanese auto makers offer a good illustration of the relationship between the race for the world and the formation of learning and internalization alliances. Back in the late 1940s—long before anyone was talking about “globalization”—Toyota and its domestic rivals realized that if they hoped to build their industry and stave off foreign competition they would have to match the productivity of American auto makers on smaller volume, with less capital, and with fewer (but more permanent) workers. They also recognized the need to reverse the Japanese reputation for shoddy workmanship.

Japanese auto makers had no choice but to innovate, and over a period of time they discovered what is now called lean manufacturing. By the 1970s, continuous improvements in productivity and quality had made them formidable competitors to the American oligarchy headquartered in Detroit.

In response to Japan's rising share of the U.S. market and the obvious quality of its products, all three major American car makers entered alliances with Japanese competitors. Ford moved as early as 1976, taking a minority equity position in financially troubled Toyota Kogyo, the maker of Mazda (and now also Xedos) cars. This invest-

ment gave Ford access to Toyota Kogyo's process technology. Toyota Kogyo was on a steeper learning curve than its domestic rivals, decreasing unit costs faster on a smaller relative volume than its larger competitors. Its Hiroshima plant was, at the time, both the most flexible auto-making facility in Japan and the one with the most rapidly increasing productivity. Its Hama plant was Japan's most focused. Thus, the alliance gave Ford an opportunity to learn from the master of flexible and focused factories.

General Motors—whose long-standing involvement with Isuzu had already given it a window on the Japanese car industry—entered into a more targeted alliance with Toyota in 1984. The two companies agreed to manufacture small cars in a former GM plant in California, using Toyota's methods and rehired laid-off GM workers. The project—called NUMMI—would be managed by a Toyota-GM team. NUMMI gave GM managers and technical personnel an opportunity to learn lean manufacturing methods from its proven master, while testing those same methods on a traditional U.S. workforce.

Chrysler entered an alliance with Mitsubishi Motors. Initially, this arrangement made it possible for Chrysler to plug product and component gaps and to weather a financial crisis in the late 1980s. The company subsequently learned a great deal about quality management and integrated product development. By the 1990s, many considered Chrysler the most competent product developer in the U.S. auto industry.⁹

Naturally, the Japanese companies that entered these alliances did so because they anticipated measurable benefits. And these were forthcoming. The first was a public relations benefit. The Japanese companies were seen as taking a cooperative stance toward U.S. industry at a time of mounting pressures for protectionism. The fact that American workers under Japanese management performed spectacularly, particularly at the joint GM-Toyota plant, shifted the blame for distress in the U.S. auto industry squarely onto the backs of management, further deflecting anti-Japanese sentiment. Besides these public image advantages, cooperating with U.S. rivals offered the Japanese partners insights into the competitive strategies of their partners cum competitors as well as perspective on how fast their capabilities were improving.

The Japanese partners also gained complementarity advantages in scale and skills. For instance, Mitsubishi increased its production of

key components and systems—such as engines—which were sold in large volume to Chrysler. Toyo Kogyo contributed its technologies and engineering skills to Ford but also learned how to develop models and features better suited to Western markets. Ford also provided its Japanese partner with financial support after the failure of Toyo Kogyo's rotary engine got the company into trouble. Finally, the Japanese partners learned how to apply their principles of production and management in the United States. Toyota, in particular, used its alliance with GM to learn to deal with U.S. labor practices. This knowledge paid major dividends when it opened its own fully owned U.S. manufacturing plant, where it had to blend American labor management practices with the Japanese production system.

In sum, many skills were to an extent geographically isolated and grew in response to demanding local circumstances. Global competition exposes the world to the best available skills and threatens companies that do not adopt them. Alliances are a way to tap into the whole world's knowledge base.

The race for the future heightens the need to maintain or acquire key competencies. The new structure of competition it fosters—focused companies, broad opportunities—calls for collaboration. To hold their own in these collaborations, companies may still want to internalize enough of the critical underlying competencies—an issue for Motorola in Iridium, as we discussed. An alliance with a highly capable partner can offer a wonderful laboratory for a company eager to gain control over critical skills. Further, the speed with which this race is run means that companies may suddenly and unexpectedly find themselves behind the curve with respect to key technologies. Technologies that seem irrelevant or peripheral to an industry today may become critically important tomorrow. And once a company falls behind the technology curve, it is difficult to catch up. Alliances can be an effective means of complementing existing skills and acquiring new ones and for getting back into the race.

The experience of Germany's Siemens provides an example of how to use alliances to learn and internalize key competencies in the area of microelectronics. Siemens had fallen behind in microelectronic technology, but soon recognized its growing strategic importance. It also foresaw the danger of becoming dependent for this technology on suppliers who were also competitors. So in the early

1980s Siemens mounted an ambitious effort to catch up with the leaders in microelectronics.

Siemens used a series of alliances and joint projects (many under the sponsorship of ESPRIT and EUREKA, the European government-sponsored collaborative research programs) to catch up. Its first collaboration was with Toshiba on manufacturing technology. This was followed by work with Philips on the development of high-density computer memories. Next came a broader alliance with other European partners (the Joint European Silicon Structures Initiative). Other collaborations with IBM, Toshiba (again), and Motorola followed. Each successive alliance was used as a rung in a learning ladder, so that between its first and second alliances with Toshiba it had transformed itself from a humble apprentice to a near-equal partner. By 1995 Siemens could be counted among the world leaders in microelectronics.

The Siemens case underscores the fact that an alliance almost always has two dimensions: one is concerned with what the partners can achieve together, the second with what the partners can gain for themselves. Therefore, alliances create value by improving the competitive standing of their partners against others, and alliance partners attempt to extract value for themselves from within the alliance. The dual process of value creation and value extraction in alliances can be thought of in terms of baking and then sharing a pie, with each partner contributing different resources and skills (one furnishing the ingredients, another the recipe, and so on) and then having to agree with the others on how to divide the finished product. This means that, quite apart from any issues of rivalry in the marketplace between partners, relationships between alliance partners entail both cooperation and competition. Thus winning through alliances is, to a significant degree, also a matter of winning within one's alliances.

Being a good partner, of course, is a give-and-take proposition. Besides closing its own skills gaps, a partner must contribute unique competencies of its own if it aspires to maintain influence in an alliance. As we illustrated in the Iridium example, Motorola could hardly expect to maintain its leadership of the Iridium alliance if it were to relinquish responsibility for contributing all key technologies to Lockheed, Raytheon, or other strong partners.

Summary

Whether they are racing for the world or for the future, companies pursuing value creation by means of alliances can be found in any of three activities: the co-option of rival or complementary firms, the melding and leveraging of cospecialized resources, and the learning and internalization of critical skills.

Globalizing firms can use alliances to build the critical mass needed to stake out and hold market positions. They can also use alliances as vehicles to reach new markets and plug skills gaps.

Technology-driven firms find a parallel set of value-creating benefits. For them, alliances make it possible to build nodal positions in the coalitions that define the technology future. These same alliances also open new opportunities for products and applications, and they keep the partner firms on the cutting edge of knowledge and skills.

3

CONCEIVING THE ALLIANCE FOR VALUE CREATION

WHAT MAKES THE DISTINCTIONS between co-option, cospecialization, and learning/internalization, described in the previous chapter, so important? The short answer is that an alliance should be both conceived and managed according to its value creation logic. If this consistency is not maintained throughout the course of the alliance, disappointment is bound to follow. The logic of value creation should set the agenda.

This chapter explores the link between the different logics of value creation and the management agenda. We have observed that the expectations set by an alliance's value creation logic drive six key aspects of its management agenda.

1. *Assessment of each partner's contribution to the alliance.* Value creation expectations should drive the assessment of each partner's contribution: What does each partner bring to the alliance and why? How clearly can the assessment be made in advance or retrospectively?
2. *Agreement on the scope of the alliance.* Value creation expectations should also determine the scope of the alliance: what to include

in the tasks jointly performed by the partners, over what product markets, in what technological and operational domain to assess the economic and financial consequences of the alliance for each partner, and in the context of which strategic goals and intents.

3. *Agreement on tasks critical to the success of the alliance.* Value creation logic also defines the tasks critical to alliance success. In co-option alliances, the most critical tasks may be the initial negotiations and subsequent coordination of strategic actions between partners; beyond these, little joint work may be required. For cospecialization alliances, the most critical tasks are crafting the working interface between partners and subsequent effective and efficient skill combination. Copractice of new skills (for one partner at least) is usually the most critical task in learning alliances.
4. *Measurement of success.* Scorekeeping should also be defined against value creation expectations. Increased competitive strength, success in cospecialization tasks, and learning effectiveness must be measured in very different ways, and none can be measured solely in terms of the alliance's short-term financial performance.
5. *Progress and duration of the alliance.* Value creation logic is the strongest indicator of likely alliance duration. The timeline on which value creation occurs is likely to be quite different for co-option, cospecialization, and learning alliances.
6. *Points of tension.* Value creation expectations may also help anticipate areas of tension. Tension tends to accumulate around key areas of value creation.

Assessing Contributions

Perhaps the most critical determinant of value creation is the degree to which the partners' contributions are complementary. Thus, alliance architects need to determine which contribution to seek from each partner. While the ideal contribution is highly situational, the value-creating logic should guide the assessment of potential contribution.

Co-option Contributions

When co-option is the basis of value creation, the most critical contribution is the ability to tilt the competitive balance in favor of the coalition and to allow members to gain competitive strength. There are usually several contributors to an alliance's competitiveness. Here are a few examples.

In its battle against Sony for leadership of the emerging VCR market, JVC brought a new standard, new products, and the Japanese manufacturing advantage to its coalition. In Europe, the partners were sufficiently strong to provide market access, but sufficiently weak that they could not go it alone. Thus, JVC avoided Philips while co-opting that company's weaker, but not minuscule, European competitors: Thomson, Thorn, Nokia, and others. While each was relatively weak, they collectively provided large-scale access to European markets and the ability to lobby their respective governments and the European Community. Fujitsu followed a similar approach in its co-option of ICL, Nokia, Amdahl, and other main-frame computer makers against IBM.¹

Riding the coattails of another firm's brand identity and reputation may help weak and unknown newcomers to establish strong positions. For example, PixTech, a new and relatively unknown French venture company developing field emission displays, a new unproved flat panel display technology, found an early R&D alliance with Texas Instruments essential to building credibility with investors and subsequent technology partners. While its alliance with Texas Instruments has since lapsed, it now has R&D alliances with Motorola, Raytheon, and Futaba and a manufacturing alliance with United Microelectronics in Taiwan.²

Interestingly, some twenty years after the JVC-Sony VCR battle, the Toshiba-Time Warner coalition won a similar contest for digital video disk standards. In doing so, it bested the same adversaries that lost in VCRs, Sony and Philips.³ All competitors in the video disk contest faced strong pressures to adopt a single standard. When this happens, some are likely to gain more strength than others, depending on the standard ultimately adopted. What made the difference this time around? The Toshiba-Time Warner video disk technology offered advantages in terms of capacity and pricing over the Philips-Sony approach, which was derivative of the audio and CD-ROM

technology at which the two companies excelled. But technology alone did not make Toshiba-Time Warner the winner. The enterprise built common ground across a wide range of coalition participants.

Cognizant of Hollywood's desire to influence standards for home delivery of digital pictures, Time Warner organized an ad-hoc committee of seven major studios to examine potential technologies and articulate its own wishes, which, perhaps not so surprisingly, came to match rather well the capabilities of the Toshiba product. Philips and Sony, in the meantime, worked in relative isolation, obtaining inputs only from the studios they owned, Columbia and Polygram, but built no broader industry support. Their product achieved higher compatibility with existing CD-ROM manufacturing technology, a characteristic prized by the CD-ROM makers, and by Philips and Sony in particular, but of little value to others. Toshiba-Time Warner also co-opted potential competitors when incorporating the technologies of some of these competitors, such as Matsushita, into their own solution.⁴ Computer makers were also brought on board the coalition, and they put strong pressure on suppliers for the adoption of a single standard. In fact, the computer makers strongly encouraged the two emerging coalitions to negotiate a common approach in 1995. Sony was ultimately won over by pressure from the entertainment and computer industry coalitions, by Toshiba's willingness to incorporate Sony and Philips's signal processing and error correction technologies into the standard, and by its backward compatibility with audio and video CDs where Sony and Philips were the leaders.

Although Toshiba and Time Warner clearly won by building common ground and a powerful support base across many groups, they were also wise enough to co-opt members of the rival coalition. Whether the main goal is to co-opt competitors, customers, or complementers, the contributions that initiators of co-option seek are the same:

1. To co-opt competitors who are collectively strong enough to build a valuable and successful coalition but individually too weak to seriously challenge the leadership of the nodal firm.
2. To use the coalition to surround major competitors that either will not join the coalition or would extract too many concessions or advantages as a price of joining.⁵

3. To co-opt the most desirable complementers in "system building" alliances to increase one's competitive strength and bargaining power over competitors. These partners may provide complementary goods (such as components), strength in complementary steps in the value creation process (such as distribution), or control over critical system complements (such as sporting events and movie rights for the broadcasters of digital television). Alliances at one step in the value chain give valued exclusivity to specific competitors, or partners, at other stages still exposed to competition. In the battle for the German digital television market, for instance, the Kirch group emerged as the winner largely on the strength of its preemption of broadcasting rights to movies and other programs, placing it in a leading position relative to other broadcasters.

4. To erode the competitive strength of the dominant industry player(s), as we see today in the myriad anti-IBM, anti-Inel, and anti-Microsoft alliances.

COSPECIALIZATION CONTRIBUTIONS

Cospecialization alliances create value by bringing together skills and, more generally, ownership-specific resources. When contributions to this type of alliance are analyzed, each partner must ask: "What does my potential partner bring that is unique?" Uniqueness has three aspects:

1. *Unique contributions cannot be traded easily across companies.* They lose their value if transferred or sold. Government relationships, for instance, are ownership-specific contributions that cannot be sold to another company, particularly to a foreign one, and may not survive the sale of a business to a foreign investor. Hence the importance of alliances with local partners when local government relationships play a key role.
2. *Unique contributions cannot be easily substituted.* To continue the government relationships example, a local partner is an absolute necessity when selling in some government-controlled markets, such as defense systems. In some cases, there is only one suitable partner. Partnering with that company is unavoidable; its support and goodwill cannot be substituted.

3. *Unique contributions cannot be independently developed or replicated within any reasonable time frame.* Again, the kind of relationships and understanding that confers insider status in closed markets provides obvious examples.⁶

The beginning of the GE-SNECMA alliance in the 1970s is an example of a partnership in which value was created through the cospecialization of a number of owner-specific, unique contributions. GE had entered the civilian jet engine market in the late 1960s—before the SNECMA alliance—with a large engine (the CF6) used on both the Douglas DC10 and the Boeing 747, two American civilian jetliners. Pratt & Whitney, however, remained the undisputed American leader in civilian aircraft engines, while financially troubled Rolls-Royce remained a strong global contender.

Why did GE turn to SNECMA? GE had identified an opportunity to build close links with European airframe makers as a way of first circumventing and later challenging Pratt & Whitney's dominance in North America and of preventing the development of a European alliance centered on Rolls-Royce. SNECMA's strong French identity, and its close links with Airbus and Airbus's French and German partners, seemed an opportunity to develop a leading position in Europe. GE's CF6 engine would be suitable for the Airbus A300 then under development, and various European airlines were also customers for the DC10 and the B747, which could be equipped with engines made by GE or its major rivals. SNECMA could also count on French government funding to develop its products.

Both partners thus brought unique "relational" assets to the alliance—assets that were rooted in their respective nationalities and in privileged positions with their home country governments.⁷ But complementation extended beyond government support. GE brought SNECMA infrastructure and expertise in selling, supporting, and servicing civilian engines worldwide—a critical element of the business that its partners could develop only at great cost. Each company, moreover, brought specific technical skills to the alliance: engine core development on the part of GE, fan development on the part of SNECMA. Finally, the high launch cost of the CF6 engine would have made it difficult for GE to fund the development of a new mid-sized engine on its own. Yet GE believed that being first with such an

engine might deter other competitors from developing one, offering GE a limited strategic window.

In summary, GE had no other suitable potential partner in Europe and was co-opting the only viable complementary European engine maker other than Rolls-Royce, its global rival. Although SNECMA viewed Pratt & Whitney as a potential alternative to GE, it understood that Pratt & Whitney's leading position would make a true alliance difficult. Thus, the GE-SNECMA alliance seemed promising. Partner substitutability was low on both sides, and each company would bring unique complementary assets to the other. The relationship each partner enjoyed with its own domestic government further reinforced the "unsubstitutability" of their contributions. Put differently, cospecialization existed here not exclusively and not even so much between skills as between relationships and positions.

Inability to imitate was clear as well. As an American company, GE could not independently develop the close relationships it needed to operate in Europe. Any effort on SNECMA's part to enter civilian markets alone and try to earn the credibility GE already enjoyed with Boeing and McDonnell Douglas would have been a long, difficult, costly, and perhaps futile effort.

Finally, the partners' assets were not tradable. GE could not buy SNECMA's government relations, and SNECMA could not buy GE's technology or experience in dealing with airlines and American plane makers.

The GE-SNECMA alliance—which enjoyed great success—underscores several key points. Cospecialization between the two partners was very high on many dimensions and met our three conditions for uniqueness. Equally important, the partners' contributions, if kept separate, would not assure success in a demanding race; if combined, the chance of success was high. Every successful cospecialization alliance must meet these same tests of contributing uniqueness and of enabling new opportunities for its partners.

Cospecialization does have costs, however—commitment costs. Cospecialization entails irreversible commitments, making each partner a hostage of the other as each concentrates on delivering its unique contributions and comes to rely more and more on its partner for the partner's unique contributions.⁸ The effects of this condition are difficult to assess in advance. This is why many alliances

start with the exchange of information as a way to reduce uncertainty and build trust before committing to cospecialization.

LEARNING AND INTERNALIZATION CONTRIBUTIONS

When learning and internalization are the goals of the alliance, the criteria for assessing contributions are most obvious: partners need to provide valuable tacit or embedded skills—skills that are difficult to acquire, transfer, and learn except in a master-apprentice relationship. The alliance relationship may be balanced in that all partners learn from each other in roughly equal proportion, each partner being an apprentice of the others in one or another skill area.

To understand how to value each other's contributions in a mutual learning alliance, it is useful to come back to the motives underlying each partner's learning and internalization efforts. We have observed that efforts to learn the partner's skills are driven by a few key motives. One is the opportunity to leverage learning across an entire organization, not just in the alliance proper, as in the NUMMI situation described in Chapter 2. Another is fear of dependence on the partner(s) for key skills. This could leave one partner vulnerable to a loss of key skills should the partner(s) decide to leave the alliance, to diminishing returns from the value created by the alliance should the partner(s) decide to take advantage of the firm's dependence, or to a divergence of interests that would make continued cooperation impossible but leave one unable to pick up from the alliance and continue alone. Another significant motive to learn a partner's skills stems from one party's desire to rebalance the alliance in its own favor by becoming less dependent on the partner's contributions.

Analyzing the ways these various motives may affect a partner's value creation calculation helps one understand how the partner is likely to value the other's contribution and, in particular, the learning opportunities offered by the alliance.

Rather than balanced, the learning relationship may be one-sided, with one partner paying "tuition" to the other for the privilege of being its apprentice. We observe this to be a feature of many alliances, though it is rarely formalized. Here the value of the partner's contribution is a function of the "exchange rate" between learning and economic benefits (tuition). In cases where the exchange is clearly formalized—via technology transfer and royalty agreements

between partners, for instance—formalization seldom covers the full range of learning opportunities. Strategically, if a company is only partly aware of its partner's learning aspiration, or is perhaps even entirely unaware, it will not extract an appropriate price for the learning opportunities it offers. Certainly many Western companies now feel they offered tuition to their Japanese or Korean partners at bargain-basement prices.

The relationship may also aim at extending each partner's skill base through jointly building new skills rather than trading preexisting ones. This has been the explicit logic of many R&D consortia in Europe, Japan, and the United States in microelectronics, new energy forms, and health care. Partners in bilateral alliances, such as EDS and Xerox in their attempt to develop "The Document Company" (a business concept integrating information management in print and on networks), also often believe an alliance will accelerate their joint learning. In other cases, networks of individual companies outsource and share some of their competencies to accelerate the development of these competencies, as in the case of local banks in the United States entrusting their information technology development to a common third party, such as EDS or Andersen Consulting.

The availability of the relevant skills in the partner organization or in the alliance and a mutually acceptable resolution of the valuation issue are necessary but insufficient conditions for learning and internalizing knowledge. Paradoxically, a long-time master of relevant skills may not be the best teacher. Its learning tracks may be so deeply buried in the past, and its skills so embedded in tacit understandings, that its partners would find it a poor teacher. A company that has acquired its skills more recently, or that is still at an earlier stage of competence development, may be easier to learn from and imitate.

A partner's learning speed is another element of the contribution assessment. Learning is not simply about capturing a partner's current skills but about riding on its learning coattails. Companies that seek the fast track to the future should latch onto a fast-learning partner. Ford accomplished this when it allied itself with Toyo Kogyo. This was not the most efficient Japanese car maker, but its rate of productivity improvement was faster than that of its Japanese competitors. Interestingly, though, despite its productivity gains, Toyo Kogyo was simply not quite large enough to compete on its own. Over the years of its alliance with Ford, while Ford was learn-

ing from Toyo Kogyo, Toyo Kogyo (now Mazda) became dependent on its American partner for financing and for global market access. Ultimately, a good student surpasses the teacher, and Mazda today is essentially run and operated by Ford as a subsidiary.⁹

Beyond availability, recency, and rate of improvement, skill *accessibility* is another key factor. The alliance must make learning possible and easy. In its alliance with JVC in Europe, for instance, Thomson used JVC's need to increase local content to access JVC's expertise in micromechanics. Thomson also offered its European distribution channels as a bargaining chip, committing to large orders from the joint venture only in exchange for the transfer of knowledge to manufacture "mechadecks" (the mechanical parts of a VCR) to Thomson.

Acquisition may be another path to learning if an alliance partner proves unreliable. When a partner lacks a stable commitment to the business, or cannot maintain its commitments, an acquisition may be preferable to an alliance. Samsung, for instance, in its efforts to acquire new capabilities, acquired plants and complete companies and operated them locally. Ultimately, some of these facilities were dismantled and reassembled in Korea as pilot plants. But Samsung acquired companies that either would not partner with Samsung or would lack staying power in the alliance.

VALUATION CONUNDRUM

Although valuing the contributions of partners for co-option, cospecialization, and learning and internalization may be simple in principle, it is difficult in practice. Most valuation difficulties stem from five specific characteristics of partner contributions. We call these the five valuation conundra:

1. The alliance brings together nontraded assets that are hard to value.
2. The relative contribution of each partner to alliance success is hard to assess, even retrospectively.
3. Much of the value, and the costs, of an alliance accrue *outside* the relationship, making it difficult for partners to monitor each other's balance of costs and benefits.
4. The relative value of each partner's contribution may shift over time in ways that are difficult to anticipate and recognize.

5. Partners may be less than totally forthcoming in declaring the value they seek from the alliance.

Each conundrum creates a distinct challenge to alliance design and management. Let's explore each in detail.

Hard-to-value assets. Hard-to-value assets, such as relationships and competencies, are combined through alliances precisely because other forms of combination and exchange would not work. Further, it is difficult to value contributions when external benchmarks and markers don't exist and when partners' skill and experience bases differ.

Interestingly enough, GE and SNECMA agreed rather easily that their work shares were roughly equal. They transferred a few small tasks from one partner to the other until they were satisfied that equality was reached. But GE's trust in SNECMA to "deliver" Airbus was an act of faith, as was SNECMA's trust in GE to secure access to leading U.S. airlines. Put differently, the partners could agree relatively easily on the value of their respective tasks but not on the value of their relationships.

Western companies going to China or Russia today face a similar difficulty: it's relatively easy for them to assess the tasks their partners can perform, but it's extremely difficult to assess the value of the relationships their partners bring to the table. Yet it is these relationships that make their alliances valuable.

Partners' relative contributions to success. It is often difficult to separate value created by the partnership from value created by individual partners acting alone. How to sort this problem out is far from clear. The problem is most acute in the development of new opportunities, where both the alliance and the specific efforts of the partners matter.

Consider the Alza-Ciba-Geigy alliance to develop advanced drug delivery systems. "TTS-nitro" (an Alza-designed transdermal "patch" used to treat angina pectoris) was one of the most successful products to result from the alliance. But which firm should have gotten credit for its success? And how much? Alza had the outstanding technology. Ciba-Geigy contributed its considerable worldwide marketing capability and bankrolled Alza R&D for years. Given these contributions, what benefits should each partner draw? Royalties from Ciba-Geigy to Alza would be a typical solution, but what should be the

level of royalties? Should the royalty rate decline over time to reflect Ciba-Geigy's role in the product's ongoing success? Should decline in the royalty rate be a function of sales volume? Should royalties cease a preestablished number of years after commercialization? Or, on the contrary, should the royalty rate increase once Ciba-Geigy's investment has been paid back?

The questions just cited are familiar to all those involved in sharing and trading technologies. If partners were perfectly cospecialized—that is, the contribution of one is worth nothing at all unless combined with that of the other, and no contribution can be substituted, even in part—the difficulty would almost disappear and the partners could presumably agree on parity in benefits. Very few alliances conform to this ideal pattern. Complex contractual formulas can provide sophisticated solutions to the valuation problem, but they do not make the problem go away. There is no simple analytical answer to the problem.

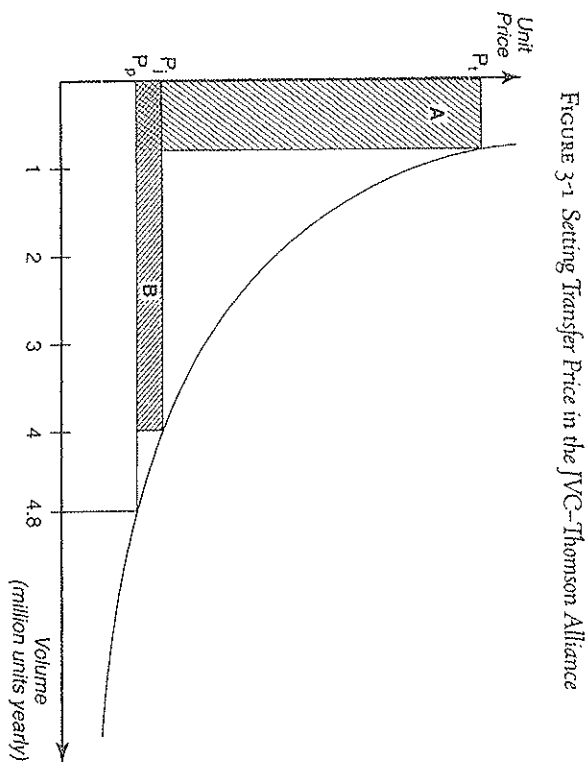
Deferring valuation to a retrospective assessment through contingent contracts does not necessarily solve the valuation problem, particularly in the face of remaining causal uncertainty, or even ambiguity, about the reasons for success.

One "solution" is to create a joint venture with boundaries sufficiently broad to minimize transfer pricing issues. Philips and DuPont, for example, found it difficult to agree on transfer pricing. DuPont was the maker of magnetic tape products that Philips sold under its brand names. To avoid transfer pricing problems, they created a joint venture that bought raw materials at market prices and sold end products using competitors' trade prices as a point of reference.

The joint venture approach raises two major issues with respect to valuation. First, the valuation question has to be tackled at the outset, before the process of cooperation allows the partners to better gauge the value of their respective contributions. Second, the joint venture formula works best when the partners create a stand-alone entity that does little "trade" with its parents. Ideally, one would like to minimize interdependencies between the activities put into the operating scope of the alliance and those left with the parent organizations. While this is possible for stand-alone joint ventures, it makes no sense for the many alliances in which value creation is based largely on exploiting interdependencies between the alliance and its parents (often by pooling volumes and combining core competencies). Short of setting boundaries that separate the partnered

activities from the parents' provisions for periodic reassessment and revaluation of benefits and contributions, past and future, may help solve this conundrum, albeit imperfectly.

Value accrued outside of the alliance. When interdependencies between shared and independently performed operations are strong, trade issues between the partners and their joint venture are likely to be thorny. JVC-Thomson provides a useful example. If J2T, the companies' European joint venture, enabled JVC to move from producing, or purchasing, 4 million sets of components per year to 4.8 million, and if there were significant economies of scale in component manufacture or procurement, how should the transfer price between JVC and J2T be set? We present the issue graphically in Figure 3-1. By entering the alliance with JVC, Thomson saves the difference between P_i (what it would pay per unit on a volume of 800,000 units) and P_p (the price the partnership can get by pooling JVC's and Thomson's purchasing volumes) multiplied by the volume it would have achieved on its own (the area shaded as "A" in the figure).



By a similar logic, JVC saves a lesser amount ($P_j - P_p$) but on a much higher volume (4 million, with the reduction of price times volume represented by the area shaded as "B"). Does this mean that the transfer price should be set to equate "A" and "B," so that each partner gets an equal share of the value created by the pooling of purchases? Or should JVC charge J2T price P_j on the grounds that JVC's previously independent manufacture of 4 million VCRs a year ought not to give the alliance a "windfall" that it has done nothing to earn? Or should the total savings be apportioned to respective volumes (that is, 83.33 percent for JVC and 16.67 percent for the joint venture)? Obviously, although this last suggestion is in principle a fair choice, there is room for negotiation and conflict in setting a "fair" transfer price.

In fact, JVC first charged the joint venture a price close to P_j . It was induced to gradually reduce this transfer price after Thomson obtained much lower quotes from other suppliers for similar components (some of which were made by JVC's own subcontractors). In this particular case, new sources of cheaper components would naturally become available over time as more companies began building VCRs, thus decreasing the uniqueness of JVC's contribution, a shift legitimately reflected in falling transfer prices.

Shifts in partners' relative value over time. The fourth conundrum in valuation is the shift in the relative value of each partner's contribution over time. This shift occurs in ways that are difficult to anticipate or recognize. As these shifts take place, the pricing of any contribution will, in principle, raise problems similar to those faced in the transfer of components and perhaps lead partners to suggest unworkable solutions, for example, to include components. While this was a solution for Thomson, which did not have an established VCR manufacturing volume base of its own, it was not a feasible option for JVC. The Japanese firm saw no advantage in separating J2T's component volume from its own, or in letting Thomson share in JVC's total economies of scale, or in manufacturing components in Europe. The tension-ridden reduction of transfer prices in this alliance, which took place as Thomson gained better information and developed alternate supply options, was probably unavoidable, even with some expansion of the alliance boundaries. JVC saw cost reductions in Japan and high margins on the exports of components to France as essential parts of its "trade" with Thomson.

Actual value sought by partners. Partners may not always see it as in their interest to share their full value creation expectations, partly because they believe they can underrepresent the benefits they get to their partner, particularly when these benefits accrue outside the scope of the alliance. Yet there are obvious advantages to being very transparent and building trust between partners.

HANDLING VALUATION CONUNDRUMS

While it may not be easy to resolve these valuation conundra, a few steps can be taken to limit their impact:

1. *Clearly define alliance scope and trade terms between partners.* Valuation conflicts can be minimized by bringing into the alliance activities of mutual interest and by creating a joint receivable, such as a joint venture, to hold them. This also limits the disruptive impact of hidden agendas by making the partners' respective costs and benefits mutually visible.
2. *Create a separate economic entity.* The decision to create a joint venture rather than rely on contractual trade moves the need to solve some key valuation conflicts to the outset of collaboration. When the economics of the situation are well understood, this is easy. When the economics are very uncertain, early resolution of conflicts requires an act of faith on the part of the partners.
3. *Seek external benchmarks.* As in many other cases in which exchange is sought, external reference points provide independent calibration of each partner's assessment of value-creating contribution (as Thomson found out by seeking quotes on VCR components).
4. *Plan for recurring bargains.* By not making decisions a priori, companies avoid initial difficulties, but they must prepare themselves to deal with conflicts on an ongoing basis. The issue of recurring bargaining obviously is more difficult when the relative values of partner contributions shift over time in ways that are hard to measure or even recognize. In other words, the valuation conundra discussed above also have a dynamic dimension and often cannot be solved once and for all. Such shifts can become disruptive, locking partners into periodic renegotiations of transfer prices. This was the case in the AT&T-Olivetti alliance. Once an

adversarial climate has settled in, it may become difficult or even impossible to move on to a more constructive relationship. Conversely, Xerox has shown great ability to adapt to reflect the growing role of Fuji-Xerox, its joint venture with Fuji, in its global operations.

The managerial challenge raised by all five valuation conundra is the need to define the economic "trade" between partners early, when information and mutual understanding are poor. The issue of valuation often boils down to a choice between which conflicts to solve up front by design and which to accept and manage later when better information is available. This choice will, of necessity, be based on partial information and an incomplete understanding of each partner's contributions and the benefits of the alliance. Either of these—contributions or benefits—may change as the partners work together. Accepting the notion that better information yields better judgment, partners should recognize that initial agreements may need renegotiating.

This recognition may be the most critical shift in mindset between traditional collaboration and the new types of alliances. Partners should not cling to an obsolete bargain, or pretend that it remains valid, or make unilateral choices to reduce or increase their own commitments. Instead, they should accept the need to renegotiate based on a new and more accurate assessment of relative contributions. Thus, a healthy alliance is a series of microbargains made over time, something we will discuss more fully in Chapter 7.

Agreeing on the Scope of the Alliance

The scope of an alliance has three dimensions: areas of interest, net benefits, and joint operations. Interests determine an alliance's strategic scope and usually encompass its widest territory. Benefits underpin its economic scope, some benefits accrue within the alliance proper (for example, the profits of a joint venture), while others accrue separately to each partner. Joint activities provide operational scope, which is typically the narrowest definition of the alliance territory.

The GE-SNECMA alliance helps us to see the tangible aspects of these three dimensions. The strategic scope of this alliance encom-

passes the entire jet engine business of the two companies, both civilian and military. Civilian and military engines are developed in the same labs and made in the same plants; product policy and product engineering choices, as well as investment decisions, cannot be made for one market independently of the other. Both civilian and military business depend on the same competences.

The economic scope of the alliance is seen in the activities that GE and SNECMA carried out for the alliance and in the impact of those activities on each company's performance. Development, manufacturing, sales, and field support and maintenance were performed by each partner on behalf of their alliance, and each made or lost money on its share of these activities. Ultimately, in any alliance, it is only the performance of the partners that matters. In the absence of a joint venture, there is no legal accounting entity other than the partners.

The operational scope of GE-SNECMA is the sum of the activities performed within the venture and the activities performed by people whose jobs are at the interfaces between the venture and the two partner companies.

Let's consider the details of each of these important dimensions of the strategic alliance.

STRATEGIC SCOPE

Let's stay with GE and SNECMA to consider the impact of strategic scope. Although the two companies began collaborating on a narrow front—a single product—they quickly found it necessary to expand collaboration to their entire range of civilian engines. This expanded scope was needed to prevent conflicts between them.¹⁰ Across-the-board cooperation also reassured customers, who saw the common interest of the partners extending to the entire range of their engines.

Partners whose strategic scope contains unresolved conflicts may experience a less favorable outcome. Two American suppliers of industrial systems (which, unfortunately, must remain anonymous) formed what appeared to be a promising alliance. Let's call them X and Y. Prior to their alliance, X had formed a partnership covering Europe with a European competitor of Y. Y competed in Europe on its own. The X&Y alliance was confined to North America. Ultimately, the fact that they were now partners on one continent but competitors on another bred suspicion and made their alliance inef-

fective. For instance, being on its own in Europe, Y was reluctant to share technical information for fear of X leaking it to X's European partner to Y's detriment. Widening the strategic scope of the alliance to include the partners' European interests, a rather obvious solution to this conflict, was not possible because of X's preexisting alliance with its European partner. Predictably, the alliance between the two U.S. suppliers was short-lived.

An important task for managers in cospecialization alliances is to minimize conflicts between what is included in the strategic scope of the alliance and what is not. For the partners just cited, X's separate European alliance was the Achilles heel of their relationship—a source of inherent conflict. GE and SNECMA were free from this type of conflict, in part because of the nature of the business in which they operated independently. The military jet engine market was smaller and more protected, and competition there was indirect; nor was the GE-SNECMA alliance seriously threatened by the two companies remaining independent in the military field.

Decisions on strategic scope are most critical when companies in the same business form a cospecialization alliance. Here mismatched or misunderstood strategic scopes can lead to insuperable conflicts. Conversely, companies that learn new skills together or from each other find less difficulty with strategic scope, in particular, if they serve different markets or segments. Each will have its separate strategic ambitions for its own markets and will learn from the other. Strategic scope is also less likely to be a source of conflict in cooption alliances. Because strategic scope drives the alliance, strategic scope conflicts would likely prevent the alliance from being initiated.

ECONOMIC SCOPE

Economic scope is defined by the range of activities that takes place within the partner firms on behalf of the alliance. For example, both of the U.S. industrial systems companies referred to above were supplying products and subsystems to their marketing and distribution alliance. The plants from which they supplied these were obviously part of the economic scope of the alliance; the actual performance of each partner's plants was only partly influenced by the fortunes of the alliance. This bred suspicion of overcharging, as plant performance information was not usually shared. A similar arrangement

existed between GE and SNECMA, but trade across similarly positioned boundaries was managed quite differently. Whereas the systems companies haggled regularly over transfer prices, GE and SNECMA had agreed to a "once-and-for-all" work share arrangement, whereby each would contribute equally, with no money exchanged or transfer prices set. The two engine makers estimated each other's share of the work—and of the costs—to be equal; this entitled each to 50 percent of alliance revenue (minus the costs incurred in the joint venture) no matter what their actual costs were. As a result, each was indifferent to the actual economic performance of the other and had a strong incentive to reduce its own costs. This work- and revenue-sharing arrangement was less conducive to conflicts than a profit-sharing one, as it minimized ongoing areas of discussion on costs and benefits.

The interests and attitudes of alliance partners cannot be fully understood if the full economic scope of an alliance is not considered. The benefits of the alliance to the partners may accrue largely outside of its operational scope—for instance, through the supply of components, leading to the valuation conflicts discussed above. These tensions are harder to avoid when the alliance is a stand-alone joint venture investment for one partner but is deeply embedded in another's related activities. The former will focus on shared performance in the alliance proper, the latter on benefits outside the visible shared operational scope of the alliance.

Consider the example of Ciba-Corning. In this medical diagnostics alliance, Corning was supplying part of the equipment (components of test machines, glass test tubes and plates, and the like), and Ciba was supplying reagents and other chemical and biological substances. The joint venture's activities were much more central to Ciba's strategy and learning priorities than they were to Corning's. They also generated a larger, steadier, and more profitable revenue stream for Ciba. After a few years, the partners realized that their economic scopes differed too much to support sustained cooperation, and Corning sold its stake in the venture to Ciba-Geigy."

Short of minimizing interdependencies between each partner and the alliance—a difficult job in any case—ensuring that the value, or potentially the cost, of these interdependencies is recognized by all partners is essential. In other words, partners must recognize that the economic scope of the alliance is wider than its operational

scope and develop a comprehensive view of each partner's benefits and contributions, including economic and strategic risks.

OPERATIONAL SCOPE

The operational scope of an alliance is what is actually done jointly by the partners. For instance, GE and SNECMA limited the operational scope of their alliance to program management. Partners may decide to minimize or maximize this operational scope. Minimizing has several advantages. First, coordination and integration needs are reduced. This translates into practical savings on the cost of collocation, travel, integrated teams, and the like. GE and SNECMA were able to develop their respective "parts" of the CFM engine separately, at least initially, limiting operational scope to a minimum. Second, because fewer activities are shared, minimizing the operational scope reduces the risk of unintended leakage of technology or skills from partner to partner. Alza, too, minimized the operational scope of its alliance with Ciba-Geigy, its intent being to limit Ciba-Geigy's ability to learn through joint work. Third, limiting operational scope may circumvent the problem of cultural distance by reducing requirements for two very dissimilar companies to work together closely. This was a concern on Ciba-Geigy's part.¹²

Minimizing the operational scope of an alliance can be costly, especially if later developments call for expansion. For example, when AT&T and Olivetti attempted to jointly develop a new mini-computer product line, they were hampered by the pattern of distance and mistrust that their previously contractual, conflict-ridden relationships had set. Their sudden shift to a cooperative relationship of broader scope failed.

A broader operational scope normally provides a larger "exchange surface" on which members of the partner firms can interact, communicate, and learn from each other. Therefore, another concern when setting operational scope is the creation of sufficient interface to facilitate joint learning.

WHAT SCOPE MEANS FOR MANAGERS

All three kinds of scope—strategic, economic, and operational—can create conflicts that may erupt in very different places. Operational

scope conflicts emerge at the interface where partners work together. One partner may, for instance, want to work more closely with its partners, while the others may want to keep allies at arm's length. Economic scope difficulties typically manifest themselves at the boundary between those activities which are jointly performed and those which are not. The idea of giving price breaks to allied firms, for instance, can easily trigger a debate about whether the ally is "one of us" or a "third party." Strategic scope difficulties manifest themselves most strongly around market competition and situations in which each partner may push its own products rather than the "alliance" products.

Thus far, we have described scope-related conflicts in isolation. In reality, conflicts that center around one type of scope usually lead to tensions in another. For instance, in the case of the two U.S. industrial systems companies described earlier, the unresolved geographical conflict of collaboration in America and competition in Europe, a strategic scope issue, made the development of the appropriate operational scope impossible. Neither partner was willing to share know-how or to achieve enough cospecialization to make the alliance create value. Their alliance failed after about two years. This interconnectedness between strategic, economic, and operational scopes in an alliance, and between various—sometimes conflicting—alliances, means that issues of scope need to be considered in light of the alliance's value creation objectives. How the alliance is connected, strategically, economically, and operationally with other activities the partners leave outside the alliance, or even perform through other alliances, needs to be very carefully considered up front when conceiving a new alliance.

In sum, all three scopes are important to all three types of value creation logic, but not equally so. Market and competitor-driven considerations of strategic scope are key to co-option alliances, as their benefits are often more strategic and accrue outside the alliance proper. Conversely, in co-option alliances, the operational scope is often unimportant, as alliance success does not imply closely integrated joint tasks. In cospecialization alliances the economic scope often matters the most, as benefits and costs often accrue in activities that are closely related to that of the alliance but not part of its operational scope. In learning alliances all three scopes are important, but the operational one conditions what learning, and how much learn-

FIGURE 3-2 The Relationship of Scope to Value Creation Logic

	Co-option	Cospecialization	Learning and Internalization
Strategic Scope	Strategic interests must be similar (Success: Toshiba-Time Warner) (Failure: IBM-Apple)	Strategic materials must be compatible and result in comparable performance expectations	Differences in strategic market scope and similarities in skill sets and required capabilities facilitate cooperation (Success: Philips and Siemens in semiconductor memories)
Economic Scope	Each partner must find enough benefits in the alliance to remain committed to its continuation	Minimize interpartner trade by making the alliance a stand-alone joint venture (as in Dow Corning), or manage trade in as neutral a fashion as possible (Success: GE-SNECMA) (Failure: AT&T-Olivetti)	There must be careful separation of value creation performance from value appropriation costs (as in GM in NUMMI)
Operational Scope	Usually unimportant	Depends on the demands of the joint task (process integration or output coordination), and on concerns for skill leakage to partner	Must provide enough of a window for learning from the partner or from a joint learning ground (Success: NUMMI) (Failure: Ciba-Geigy-Alza)

ing, can take place. The relationship between alliance scope and value creation logic is depicted in Figure 3-2.

Understanding Joint Task Demands

Different value creation logics call for very different approaches to the tasks performed by partners. Co-option alliances entail the fewest demands from an organizational and managerial standpoint. Success is more a function of strategic foresight and negotiating skills than of the ability of partners to work together closely. The Microsoft-IBM alliance is instructive. When Microsoft, unknown to IBM's executives, simultaneously developed OS-2 for IBM and its own Windows operating system, the Microsoft organization needed little adjusting. Microsoft's interface with IBM was confined to a few people: CEO Bill Gates, several senior executives, and a handful of lawyers and intellectual property rights experts. How Microsoft worked, as an organization, was not material to the success of its interaction with IBM except insofar as it needed to deliver on its commitments. The key managerial tasks for Microsoft concerned Gates's strategic foresight, ambition, and cunning. The requisite skills were largely political and intellectual: conceiving a winning coalition, imagining migration paths to a favorable industry future, and negotiating in a self-interested but cooperative way to build common ground and obtain the key commitments for co-opting partners.

Co-option alliances also typically need to be maintained over time, even when they result in early and irreversible commitments, such as the adoption of a standard. The difficulties experienced by Sony and Philips in the digital video disk (DVD) contest in 1995 stemmed from their lack of ongoing attention to the entertainment industry once the adoption of CD standards had been achieved, a precedent that created ill will among media producers.

While co-option alliances generally require little organizational adjustment or management, alliances that involve many joint tasks—whether skill cospecialization, learning/internalization, or both—are much more demanding. For example, GM's alliance with Toyota required careful design and ongoing management. GM would have learned little from Toyota had it not designed a number of major

joint tasks into the alliance: a common plant, mixed teams working together, and a dedicated effort to diffuse learning from Toyota into its own organization. Each of these activities had to be managed over time. Likewise, had they not worked diligently to make their respective organizations similar, GE and SNECMA would have found working together more difficult. Conversely, Ciba-Geigy enjoyed limited success in learning from its relationship with Alza largely because the two companies failed to learn how to perform interdependent tasks together. Successful products were developed, but Ciba did not internalize a new capability.

When collaborative R&D efforts succeed it is generally for two reasons: (1) the learning ambitions of the partners are well matched, and (2) the partners create an interface that makes learning possible. The Japanese very large-scale integration (VLSI) project provides a useful model. Designed to gain leadership in microchip design and manufacture in the late 1970s, the VLSI project was successful largely because of sponsors' efforts to learn how to work together closely without compromising self-interest.

The actual design of individual alliances is discussed in detail in Chapter 5; our purpose here is simply to state that the key tasks in an alliance depend on the value the alliance is expected to create. In most alliances, value creation is a function of the successful performance of joint or coordinated tasks. Thus, value creation should be the yardstick of alliance design.

Defining and Measuring Progress

Design based on value creation is only a partial prescription for alliance success. The value creation expectations reflected in the alliance design should define how success will be measured.

CO-OPTION ALLIANCES

The progress of co-option alliances ought to be measured against their specific aims. For example, an alliance to establish standards can be measured by:

1. the reduction in the number of competing standards and/or system architecture approaches
2. the acceleration in market development attributed to the standards being set
3. the growth and profitability of coalition members compared with that of counterparts outside the coalition
4. the coalition's market share and members' margins

Alternatively, the progress of a co-option alliance intended to restructure a mature industry can be measured on the basis of:

1. adherence to price discipline by its members and by other industry players in downturns
2. improvements in the balance between supply and demand
3. overall improvement of margins in the industry

Although the specific measurements vary in each case, the benchmark for the performance of co-option alliances can be summarized in terms of the improvement of the structural attractiveness of the industry for the alliance participants and the strengthening of their competitive capabilities.

COSPECIALIZATION ALLIANCES

Cospecialization alliances that rely on skills or other ownership-specific contributions have other relevant measures. These ought to be measured by the value of the new opportunities they create compared with what partners could have achieved on their own.

Increased revenues and cash flow streams are likely to be the most frequently used benchmarks for cospecialization alliances, but there are others. A defensive alliance may have limited positive effects, but these may still be improvements over the effect of having no alliance at all; hence the importance of using alternatives to the actual alliance as reference points, not just actual starting positions. Obviously, the comparison will always be clouded by the difficulty of answering the "what if?" question, but the strength of cospecialization should be able to swing the balance decisively in favor of an alliance as opposed to no alliance.

It is therefore both important and difficult to separate alliance performance from the performance of the underlying business. Eurocopter,

the alliance between Aérospatiale and DASA, was established just before the helicopter market collapsed and has consequently performed poorly against expectations. Does this mark Eurocopter as a failure? Not if the separate performance of its partners would have been even worse.

LEARNING ALLIANCES

The success of learning alliances can be measured in terms of the intensity of skill improvement and the scope of learning application. The real test for GM's learning from Toyota was not the performance of NUMMI but the extent to which GM could reduce costs and improve quality at GM plants around the world. Learning alliances need to be assessed on the basis of the individual partner's appropriation of that learning. In this value creation logic, the real value of the alliance must be measured largely outside the agreement.

A more ambitious but perhaps less precise scorecard would include measures of "learning to learn." In other words, did working with Toyota give GM an advantage in practicing disciplines such as TQM and Kaizen on its own, so as to accelerate its own learning, or did GM merely transfer and diffuse internally what it picked up from Toyota via NUMMI?

A full scorecard would also assess time-to-learn versus the decay rate in the value of what is learned in the alliance, again against alternatives. Let's consider the Ford Motor Company's experience to make this point more concrete. Ford's alliance with Toyo Kogyo gave it a window on Japanese lean manufacturing as early as 1976. Based on what it began to learn, Ford launched an "After Japan" program of productivity and quality improvement. By its own admission, Ford only began to amass major benefits from that program in the mid-1980s. Could Ford have learned faster or differently? Could it have obtained the same benefits more cheaply? By the mid-1980s, lean manufacturing was well understood. In view of this, could Ford have bypassed its alliance altogether? These questions are obviously difficult ones to answer today. They were even more difficult to answer when Ford was deciding whether or not to create the alliance.

Relative dependence within a competence-building alliance is another criterion against which to measure success. Whether the coalition contributes to skills parity or maintains a disparity between the partners is perhaps the acid test of any learning alliance. Is GM

now able to compete with Toyota in the small car market? Had Rover, by the time it was taken over by BMW in early 1994, learned everything it needed to learn from Honda in terms of productivity, quality, and development cycle times and costs? Was it therefore dependent on Honda only for specific components and models but not for key competencies?

NOR A CASE OF ALL OR NOTHING

Whatever the value creation logic followed, it's a mistake to evaluate the success of an alliance only on the basis of what might have resulted in its absence. This all or nothing perspective can blind firms in an alliance to opportunities for greater value creation and value capture. The reason is complacency about alliance benefits. In some cases, alliance benefits so exceed those of go-it-alone strategies that partners fail to make their alliances "efficient." For example, the cost of developing new weapons systems is so high for firms acting alone that European defense contractors have taken a lax attitude toward achieving efficiency in their alliances. The right benchmark is not alliance versus no alliance but the existing alliance versus the optimally efficient alliance. But what is the benchmark for the optimally efficient alliance? In competitive environments, alliance efficiency is policed by external market competitors. Airbus's benchmark is Boeing, not Airbus partners taken separately.

DIFFERENT GOALS, DIFFERENT MEASURES

Beyond the problem of finding an appropriate benchmark, a second complication of performance measurement is the overall framing of the assessment. Some alliances should be measured as *options*. R&D alliances, for instance, may be assessed in terms of the range of available options they present to their partners.

Not all options are exercised, nor do all alliances lead to active business development efforts. Merck in particular maintains a network of relationships in its effort to find a preventive or curative treatment for AIDS. Given the scientific and technological uncertainties involved, these alliances should, for now, be measured as options. The value of the learning that takes place in alliances should be assessed in terms of strategic options as well. Ford, through its

alliance with Toyo Kogyo, may have become a stronger, more competitive company than it could have been on its own.

Conversely, accepting permanent cospecialization in a complementation alliance reduces the options available to each partner separately. The cost of the loss of these options has to be factored into the assessment. Over the longer term, these costs can be substantial. *Aéropostale*, for example, may have gained through its membership in Airbus, but it may have lost the capability of building a major aircraft on its own. There are opportunity costs associated with this lost capability.

THE DANGER OF MEASURING THE WRONG THINGS

In all the alliances we have observed, it is all too easy for the management of one or more of the partners to lose sight of the value creation logic of the alliance and to fall back on purely financial measures of performance. This practice is both misleading and dangerous. Measuring NUMMI's success on the basis of its financial performance only might have cost GM the opportunity to learn from it by encouraging GM's management to cut the numbers and the quality of the managers and technical specialists it rotated through the joint venture.

Focusing exclusively on the financial performance of competitive coalitions is also misleading and dangerous. If Boeing were to successfully woo an Airbus partner to its own camp, the weakening of Airbus might be the greater benefit to Boeing, not the financial value actually created through collaboration with the new partner. Measuring only the latter benefit would miss the point. Indeed, a company such as Boeing might see its interest in giving a very sweet deal to an Airbus partner just to break the rival coalition.

THE BALANCED SCORECARD

Ultimately, financial performance is still a yardstick in all alliances. Yet how, and over what scope of activities and time frame, financial benefits are to be generated varies greatly according to the alliance's value creation logic. Managers therefore need to develop a balanced and comprehensive scorecard to assess the performance of a strategic alliance, one that is consistent with the value creation logic that it pursues. Understanding that robust alliances create benefits accord-

ing to all three logics is key. A comprehensive scorecard reduces the danger of missing value creation opportunities by focusing too narrowly on a few benefits and ignoring, or forgetting, others.

Keeping Time

The same value creation logic that sets the agenda for an alliance also influences its time horizon and the "critical moments" at which managerial action is required. For example, the critical moments for alliances bent on setting industry standards are at their inception. Once the partners have agreed on a standard, or it has won the battle for the marketplace, these alliances are usually stable. They require active managerial intervention only insofar as other companies may try to woo away partners and as changes in technology lead to new alliances. We observed this in the Sony-DVDs case. New standards are usually called for only under one or the other of the following conditions: (1) the appearance of a strong technological discontinuity or (2) open revolt by junior coalition members who feel "locked in" and economically exploited by the coalition leader and its standard. Thus, managers must monitor both external and internal destabilizing factors. Obviously, the lead partner in a standards coalition must be sensitive to the balance between maximizing its own gains and provoking partners to defect.

When the lead partner does not abuse its position, the incentive for alliance continuity remains strong for all partners. Sony's difficulty in challenging the VHS standard with its 8mm format is explainable, in part, by the behavior of JVC and Matsushita in their alliance. Most VCR makers remained loyal to VHS, partly because JVC and Matsushita did not use their control of the standard's proprietary elements to demand excessive licensing fees. Their introduction of VHS-C (for "compact") and of Super VHS also helped, until more recently, to blunt some of Sony's advantages for hand-held video cameras. It is only in the mid-1990s that the new standard made serious inroads.

The stability of the co-option alliance is a function of the benefits the various parties find in it. Each partner must be given a unique and well-defined role, and a role it can gladly accept.

Alliances that combine cospecialized ownership-specific assets likewise tend to be relatively stable and long lasting (as are many traditional joint ventures), particularly since their value usually accrues over time as a function of the performance of the joint work. Similarly, new businesses based on cospecialized assets tend to be stable, if only because their cospecialization makes the partners increasingly reluctant to dissolve the alliance. Airbus is a prime example; it was reinforced by a lack of potential substitutes to the current partners, strengthening perceptions of mutual uniqueness between the Airbus partners.

Only a substantial evolution of technologies and markets—one that challenges the value creation potential of the alliance, or the complementarity and cospecialization of the partners' respective assets—will put an early end to such alliances. The case of Oris and Syncor provides an example.

In 1985, Oris, a French supplier of immuno-diagnostic kits employing radioactive materials, entered an alliance with Syncor, a U.S. network of radiopharmacies. Syncor supplied hospitals and diagnostic centers with radiation-based diagnostic technologies, utilizing fleets of specially equipped vans driven by registered radiopharmacists for the delivery of radioactive materials and collection of wastes. Under the terms of their agreement, Syncor was to distribute Oris products in the United States. Oris bought a 15 percent participation in Syncor to facilitate its partner's development and foster mutual interest in Syncor's performance.

Within a few years, however, new nonradioactive technologies became more important for medical diagnostic tests, even as Syncor extended its network of radiopharmacies. With the shift to nonradioactive technologies, the benefits of cospecialization between the two companies disappeared. Oris could use ordinary drug distributors or even courier companies to distribute its products, while Syncor had to look for other opportunities to leverage its distribution investment and the skills of its pharmacists. Home care services provided an opportunity for Syncor, but one in which Oris had no interest. The alliance was dissolved in 1989.

In very turbulent, rapidly changing environments, the value of firm-specific assets to a cospecialization alliance is likely to be transient. Alliances in these environments are useful as hedging options, even though they may never be exercised—longevity is not a measure of success.

Learning alliances also have a unique time frame. Their duration is typically conditioned by the learning cycles on which they are based. When a learning-motivated firm feels that it has learned all that's worth learning from its partner—or all that the partner will reveal—the basis for the alliance evaporates. If and when GM believes that it has learned all that NUMMI can teach it, or all that Toyota is willing to impart, the value of NUMMI to GM may decline. Similarly, once Toyota has mastered U.S. labor relations and demonstrated that a unionized American workforce can be productive and disciplined, Toyota may also lose interest in the venture.

To summarize, partners must keep tabs on the benefits that remain to be gained as their alliances proceed through their life cycles. As those benefits are exhausted, partners are likely to opt out.

A sense of time is critical to planners and managers. Early expectations about the life of the alliance are useful for planning milestones and possible renegotiation points. It is also important to keep a long-term perspective, to avoid being swayed by the many crises and conflicts that are likely to punctuate the evolution of the alliance. The need for a long-term perspective notwithstanding, alliance longevity alone is not an indicator of success. Longevity is, among other factors, a function of the value creation logic that justifies the alliance.

Anticipating Points of Tension

When we look at the conflicts and tensions that afflict alliances, we notice that they accumulate around the key areas of value creation and capture. Managers who understand the different logics of value creation, then, are better prepared to predict where conflicts are likely to erupt and be most intense.

In co-option alliances, conflicts typically develop around the sharing of economic rent between the nodal firm (typically the innovator on whose technology the coalition's standard is based, or the initiator of an industry restructuring attempt) and the other coalition members. The lesser partners chafe at the risk of becoming hostages to the nodal firm's strategy. The turmoil within the UNIX alliance is a representative case. Here many different approaches were advanced to guarantee that AT&T would not exercise excessive influence over

UNIX users. The contrast between Intel's and Sun's strategies concerning proprietary microprocessor technology—control in one case, openness in the other—exemplifies how different focal firms in the same industry have handled these tensions. As a newcomer, Sun was originally willing to share benefits more widely to set a new standard than was Intel, a more established company. A similar example is found in the cases of Matsushita (in VCRs) and of Toshiba-Time Warner (in DVDs); unlike Sony, these companies adopted an inclusive approach to dealing with proprietary standards.

In cospecialization alliances, the value of partner contributions and the benefits each draws are a major source of tension at the inception of the alliance. Here, asymmetry of interests or expectations can be a problem. For instance, if Partner A looks to the alliance itself as a major source of benefits, while Partner B looks *outside* the alliance for its benefits, the potential for conflict is high. Asymmetric cospecialization, leading to unequal mutual dependence, is an obvious next order source of tensions. If one partner becomes strategically dependent on the other, the other will be tempted to take advantage of the situation to tilt the alliance in its favor.

In learning alliances, the most contentious issue is usually one of symmetry and balance in learning, assuming that both partners are interested in learning. Tensions may also arise from the difficulty of measuring learning when the following kinds of questions arise: How much will one partner make available to the other(s) to learn? How much is a partner actually learning? How much is a partner benefiting from its learning? Obviously, one partner will measure its contribution to the other based on what it has put on the table, while the other partner will attempt to measure how much of that contribution it has actually absorbed, digested, and applied. It is not unusual for each side to arrive at a different assessment of the situation. In other words, if GM did not benefit much from what Toyota made available, Toyota would see this as GM's problem, while GM might not see it that way.

Summary

We have argued that alliances create value in many different ways, but that the options can be clustered within:

1. the logic of strategic co-option, which makes a situation more attractive to alliance members and increases their competitive capabilities
2. the logic of cospecialization, which creates opportunities through the complementation of specialized skills and other firm-specific, nontradable assets
3. the logic of learning and internalization, which provides opportunities for learning and appropriating new competencies

Understanding these mechanisms for creating value is important in that they strongly influence key features of the alliance: the assessment of contributions; the scopes of the alliance; the priorities, tasks, and capabilities on which effort is to be focused; the criteria for measuring the alliance's success; and the expectations that a partner can harbor about the alliance's time horizon and prospects for stability. The key points of our argument on each of these themes as they relate to co-option, cospecialization, and learning are summarized in Table 3-1.

Our argument has so far concentrated on what kind of "game" is played in an alliance. It is equally important, however, to know how to assemble the alliance team, and then how to lead and coach it—the subjects of subsequent chapters.

TABLE 3-1 *Value Creation Logics and Alliance Management*

	CO-OPTION	COSPECIALIZATION	LEARNING/INTERNALIZATION
ASSESSING CONTRIBUTIONS	• Medium competitive strength for alliances with competitors (usually at same stage in the value chain) • Uniqueness and differentiating power of contribution for alliances with complementers (usually at different stages in the value chain)	• Uniqueness of contribution rooted in: nontradability nonsubstitutability nonimitatability	• Recent skill leadership • Pace of skill improvement • Access to copractice of key skills
AGREEING ON ALLIANCE SCOPE	• Consideration of overall strategic scope of each partner	• Focus on economic scope of each partner	• Focus on operational scope as learning ground
UNDERSTANDING JOINT TASK DEMANDS	• Strategic foresight—imagining winning coalitions and migration paths • Negotiating successfully for mutual gains • Maintaining and leading the coalition over time	• Effectively melding the skills of the partners • Jointly adjusting to the evolution of the opportunity to maintain a dynamic fit	• Ability to copractice: "apprentice to master" relationship • Codiscovery and development of new skills
DEFINING AND MEASURING PROGRESS	• Improved margins, increased market share for coalition members	• Revenue and profit stream or/and cost savings versus what is available to each partner separately	• New or enhanced skills • Leveraging opportunities of using the skills

TABLE 3-1 (continued)

	CO-OPTION	COSPECIALIZATION	LEARNING/INTERNALIZATION
KEEPING TIME	• Life cycle of the industry structure (e.g., of the standards or production processes, barriers to entry, or markets underlying an industry structure), unless alliance leaders use their position against their partners and encourage defection from the alliance	• Life cycle of the product/industry/technologies, provided cospecialization and complementation retain their value over time—or short-lived options in hedging strategies	• Learning cycle of the "apprentice partner(s)" with regard to the skills contributed by other partners, and renewal rate of the skills contributed to the alliance by each partner
ANTICIPATING POINTS OF TENSION	• Balance of costs and benefits among members of the coalition: rents of the coalition's focal or leading firm versus benefits to the other members of the coalition	• Relative valuation of contributions; sharing of the value created in the alliance, in particular when the alliance is partly embedded in the partners' own operations	• Symmetry and balance in learning • Potential versus actual learning • Competence replenishment versus competence transfer